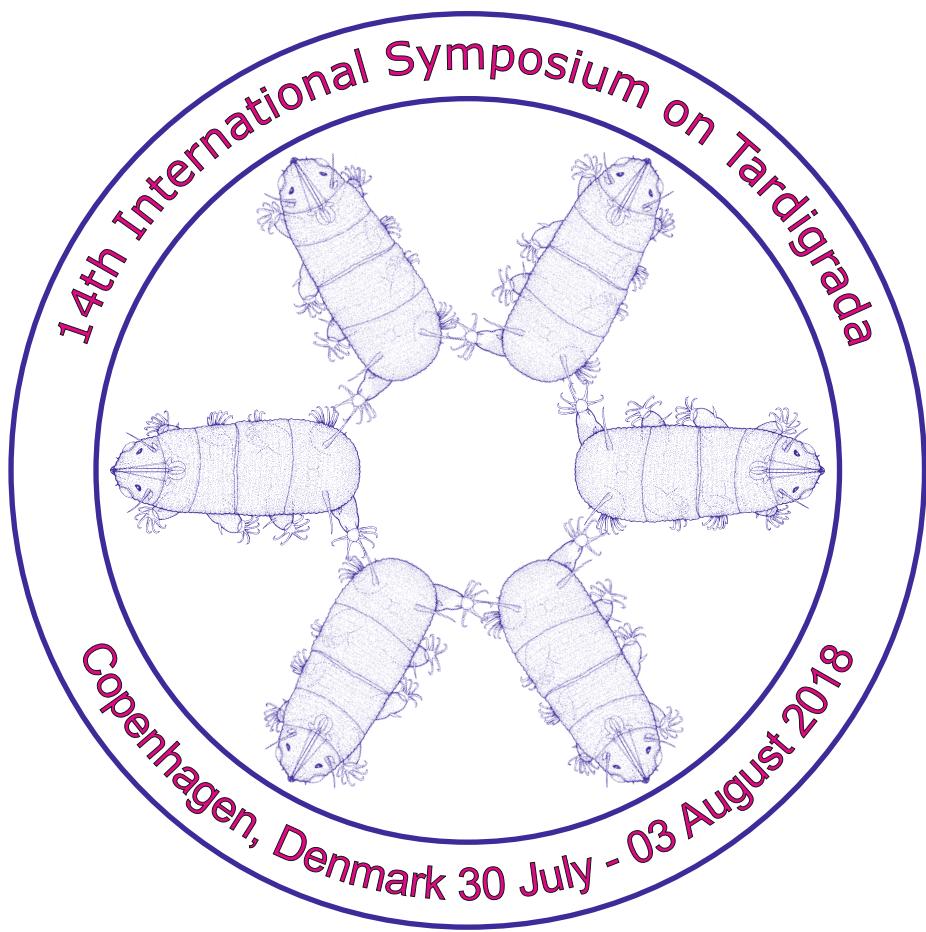


WELCOME TO TARDIGRADA 2018
14TH INTERNATIONAL SYMPOSIUM ON TARDIGRADA

CONFERENCE PROGRAM



COPENHAGEN BIOCENTER, DENMARK • www.tardigrada2018.org

UNIVERSITY OF COPENHAGEN
FACULTY OF SCIENCE



Welcome to Tardigrada 2018

International tardigrade symposia take place every three years and represent the greatest scientific forum on tardigrades. We are pleased to welcome you to Copenhagen and the 14th International Symposium on Tardigrada and it is with pleasure that we announce a new record in the number of participants with 28 countries represented at Tardigrada 2018.

During the meeting 131 abstracts will be presented. The electronic abstract book is available for download from the Symposium website - www.tardigrada2018.org - and will be given to conference attendees on a USB stick during registration.

Organising Committee 14th International Tardigrade Symposium, Copenhagen 2018

Chair

Nadja Møbjerg (University of Copenhagen, Denmark)

Local Committee

Hans Ramløv (Roskilde University, Denmark), Jesper Guldberg Hansen (University of Copenhagen, Denmark), Jette Eibye-Jacobsen (University of Copenhagen, Denmark/ Birkerød Gymnasium), Lykke Keldsted Bøgsted Hvidepil (University of Copenhagen, Denmark), Maria Kamilari (University of Copenhagen, Denmark), Reinhardt Møbjerg Kristensen (University of Copenhagen, Denmark), Thomas L. Sørensen-Hygum (University of Copenhagen, Denmark)

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Advisory Committee

Diane Nelson (East Tennessee State University, USA), Hartmut Greven (University of Düsseldorf, Germany), Reinhardt Møbjerg Kristensen (University of Copenhagen, Denmark), Roberto Bertolani (University of Modena and Reggio Emilia, Italy)

Acknowledgement

The Chair and Local Committee wish to thank everyone who facilitated organising Tardigrada 2018. Especially, we thank graphic designer and webmaster Leif Boldig, project finance officer Dorthe Theodoraki, clerical officer Stine Hansen, collection staff member Laura Pavesi, departmental attendants Peter Albek and Nils R. Rosenberg, Erica de Milio (National University of Ireland Galway, Ireland) for facilitating the workshop, Dennis K. Jensen (Olympus, Denmark) for providing an extra microscope for the workshop, and the August Krogh Club. The Symposium is financially supported by the Carlsberg Foundation and the Independent Research Fund Denmark.

Symposium logo

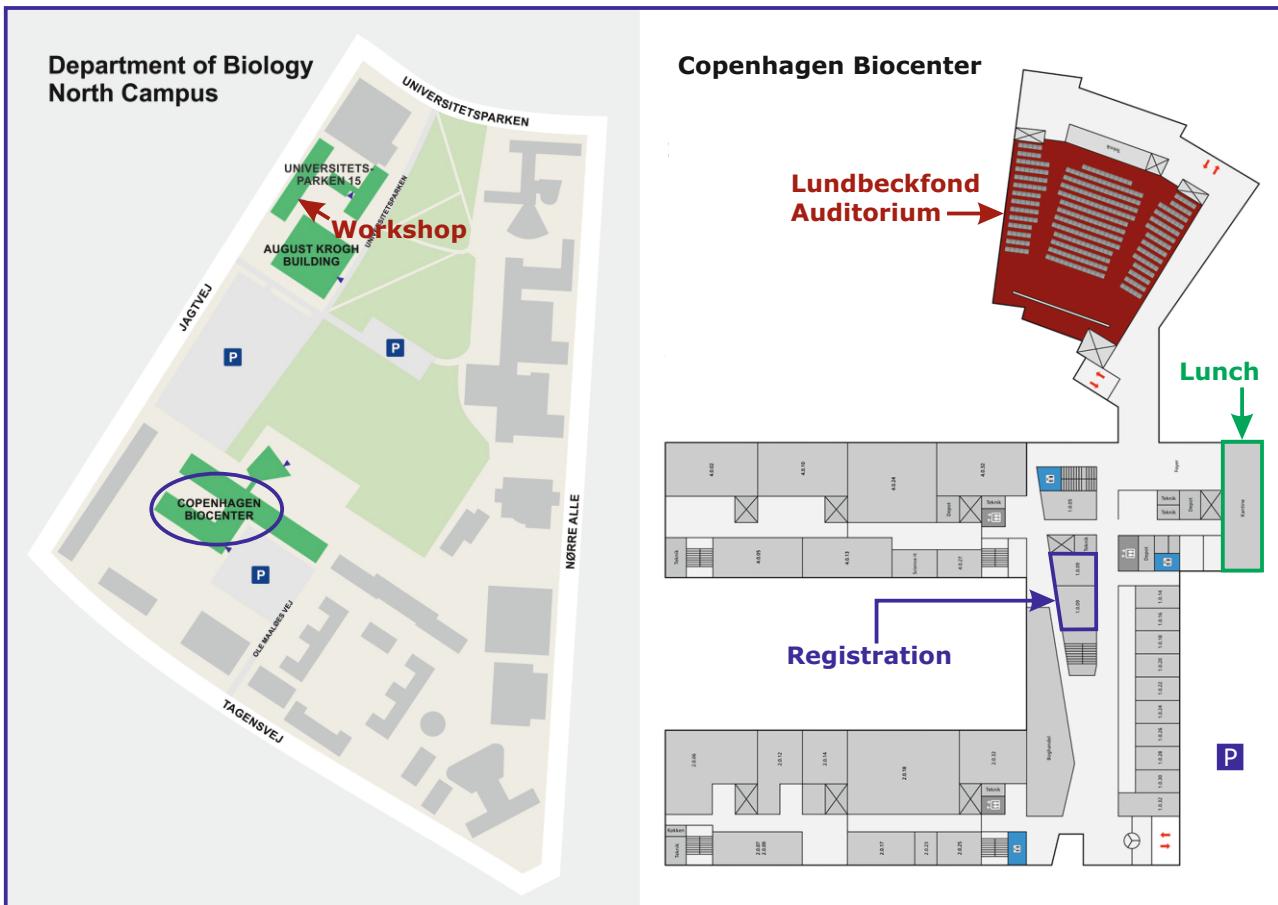
The Symposium logo (frontpage) shows six individuals of *Isoechiniscoides sifae* drawn by Stine Elle.

Venue - Copenhagen Biocenter

The symposium venue is the Copenhagen Biocenter (Ole Maaløes Vej 5) situated in University of Copenhagen's North Campus. Detailed information on transportation options can be found on the symposium website.

Internet and Wi-Fi

If you are affiliated with an Eduroam institution you can log on to the Eduroam network available at the University of Copenhagen with your usual username and password. You can also connect to the Wi-Fi using the KU Guest network and the password 77928556 generated for early bird registrants or alternatively with a personalised password. Open your browser and enter your name, phone number and E-mail. After accepting the "terms of use", you will receive a text-message on your phone containing a password. With your E-mail and password, you can now log on the KU Guest Wi-Fi for 24 hours (same process needs to be repeated every day).



Registration & Presentations

Registration is necessary for attending the conference. You will receive a Conference Badge, which is required for admission to symposium sessions, lunch and coffee/tea breaks. Lunch will be served at a buffet in the Biocenter (see map). You also need to wear the badge if you are attending the symposium dinner, workshop and/or excursion. Registration counters (see map) are open Monday (30/7) from 7:30 to 9:30 and during coffee breaks. Any changes to the program or special announcements will be posted on an information board near the registration area.

Oral presentations will be given in the Lundbeckfond Auditorium (see map). With exception of keynote talks, oral contributions are 12 minutes plus 3 minutes for questions. Presentations need to be in Power Point or as a PDF file and must be handed to the designated operator in the auditorium before the beginning of your session. Please check the compatibility of your file prior to your presentation.

Chairpersons are under strict instructions to keep oral presentations on time. Posters (100x70 cm – portrait format) will be displayed on the first floor of the Biocenter in two sessions (see page 8-11). Presenting authors are kindly asked to be available at their posters during the scheduled poster sessions.

Symposium Dinner

The symposium dinner will be held Thursday (2/8) evening at the National Museum of Denmark. We meet at the "Frederiksholms kanal 12" entrance of the Museum at 18:00.

Workshop & Excursion

The workshop takes place Friday (3/8) at 8:00 -12:00 on the 3. floor of Building 3, Universitetsparken 15 (see map). Three sessions have been planned. Session 1 is on marine tardigrades (8:00–9:10), session 2 (9:20–10:30) and 3 (10:40–11:50) deal with limno-terrestrial heterotardigrades and eutardigrades. Detailed information on the sessions will be send to workshop participants.

A half-day excursion is planned to the City of Copenhagen Friday (3/8). A bus will pick up participants from the parking lot in front of the Biocenter at 13:00 and drive us to Nyhavn 71. You are welcome to skip the bus and meet us at Nyhavn 71 no later than 13:45. At 14:00 we go for a canal tour and afterwards a guided walk through the centre of Copenhagen, which ends at Toldboden around 16:30 for a drink. All symposium participants whether they are joining the excursion or not are very welcome to meet us at Toldboden for a drink and a final goodbye and "see you in 3 years".



MONDAY 30/7-2018

07:30 - 10:30 Registration & Poster installation (Session 1) - Welcome & Keynote 1

07:30 - 09:30	Registration and Poster installation (Poster session 1)
09:30 - 09:45	Welcome by N. Møbjerg and Dean John Renner Hansen, SCIENCE, UCPH
09:45 - 10:30	<u>G. GIRIBET</u> - Another round of animal phylogenetics: known, unknowns, needs
10:30 - 11:00	COFFEE/TEA

11:00 - 12:30 Session 1.1 Taxonomy, Phylogeny & Evolution - Chairs: Giribet & Kristensen

11:00 - 11:15	<u>J. ORTEGA-HERNÁNDEZ</u> & R. GARWOOD - New evolutionary insights from the tardigrade fossil record
11:15 - 11:30	<u>J. KIHM</u> , J. LIU, S. KIM & T.S. PARK - Comparative morphological study between tardigrades and Cambrian lobopodians (<i>J. Kihm is a Young Scientist Award contestant</i>)
11:30 - 11:45	<u>R. BERTOLANI</u> , M. CESARI & R.M. KRISTENSEN - Progress in the integration of morphological and molecular investigations in tardigrade taxonomy and phylogeny
11:45 - 12:00	<u>K. SHORT</u> , S. McINNES, D. PISANI, C. SANDS & P. CONVEY - A new comprehensive phylogeny of the Tardigrada may alter the hypotheses for their colonisation of Antarctica (<i>K. Short is a Young Scientist Award contestant</i>)
12:00 - 12:15	<u>P. GASIOREK</u> , W. MOREK, D. STEC & Ł. MICHALCZYK - Combined morphological and molecular phylogeny of <i>Echiniscus</i> C.A.S. Schultze, 1840 (<i>P. Gąsiorek is a Young Scientist Award contestant</i>)
12:15 - 12:30	<u>D.V. TUMANOV</u> - Analysis of non-morphometric morphological characters used in the taxonomy of the genus <i>Pseudechiniscus</i>
12:30 - 13:30	LUNCH

13:30- 15:00 Session 1.2 Taxonomy, Phylogeny & Evolution - Chairs: Bertolani & Hansen

13:30 - 13:45	<u>R.M. KRISTENSEN</u> , A. JØRGENSEN & N. MØBJERG - A new interstitial species and genus of Echiniscoididae with unique anal system structures
13:45 - 14:00	<u>W. MOREK</u> & Ł. MICHALCZYK - Multilocus molecular phylogeny of the genus <i>Milnesium</i> Doyère, 1840 (<i>W. Morek is a Young Scientist Award contestant</i>)
14:00 - 14:15	<u>E. SANTOS</u> , P. VEIGA, M. RUBAL, P.J. BARTELS, C.M.C. DA ROCHA & <u>P. FONTOURA</u> - <i>Batillipes pennaki</i> Marcus, 1946 (Arthrotardigrada: Batillipedidae): deciphering a species complex
14:15 - 14:30	<u>O. LISI</u> , R. LONDOÑO & S. QUIROGA - Description of a new genus and species (Eutardigrada, Richtersiidae) from Colombia, with discussion on Richtersiidae
14:30 - 14:45	<u>D. STEC</u> , Ł. KRZYWAŃSKI, K. ZAWIERUCHA & Ł. MICHALCZYK - Integrative redescription of <i>Paramacrobiotus</i> (<i>Amicrobiotus</i>) <i>areolatus</i> (Murray, 1907) with notes on the phylogeny of the genus <i>Paramacrobiotus</i> Guidetti et al. (2009) (<i>D. Stec is a Young Scientist Award contestant</i>)
14:45 - 15:00	<u>N.J. MARLEY</u> - Is it time to change how we present morphology-based taxonomic information to make it more accessible?
15:00 - 15:30	COFFEE/TEA

15:00 - 16:30 Poster Session 1: Posters S1.P1-S1.P39

16:30 - 18:00	ICEBREAKER
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TUESDAY 31/8-2018

09:00 - 10:30 Session 2.1 Biodiversity & Biogeography- Chairs: Fontoura & Jørgensen

09:00 - 09:15	<u>R.M. KRISTENSEN</u> , P.M. ARBIZU, A. JANSEN & J.G. HANSEN - Tardigrades (Arthrotardigrada) from the manganese nodule area of the Eastern Equatorial Pacific
09:15 - 09:30	<u>A.C. SUZUKI</u> - Tethys elements among Japanese marine tardigrades
09:30 - 09:45	<u>M.R. LEE</u> - Marine intertidal tardigrades along the length of the Chilean coast
09:45 - 10:00	<u>E.S. PERRY</u> - An initial survey of marine tardigrades from Prince Edward Island, Canada
10:00 - 10:15	<u>M. RUBAL</u> , P. FONTOURA & P. VEIGA - Tardigrade diversity in shallow subtidal shell gravel sediment from the North West Iberian Peninsula
10:15 - 10:30	<u>P.J. BARTELS</u> , D. FONTANETO, M. ROSZKOWSKA, D.R. NELSON & Ł. KACZMAREK - Do marine tardigrades follow Bergmann's Rule?
10:30 - 11:00	COFFEE/TEA

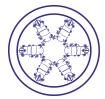
11:00 - 12:45 Session 2.2 Biodiversity & Biogeography - Chairs: Bartels & McInnes

11:00 - 11:15	<u>R. GUIDETTI</u> , E. MASSA, M. CESARI, S. McINNES & L. REBECHI - Tardigrades of Victoria Land (Antarctica)
11:15 - 11:30	<u>M. GIRALDO</u> , E. BELTRAN-PARDO, Ł. KACZMAREK, <u>R. ACEVEDO-BARRIOS</u> , H. ALTAMAR & J. BERNAL - Identification of tardigrades from Half Moon Island, Antarctic Peninsula
11:30 - 11:45	<u>D.R. NELSON</u> , P.J. BARTELS & S.R. FEGLEY - Tardigrades from moss and lichens in the Great Smoky Mountains National Park (Tennessee and North Carolina, USA)
11:45 - 12:00	<u>C. TEKATLI</u> & A. ALTINDAĞ - Seasonal variation in the distribution and abundance of Tardigrada on Eymir Lake and Çubuk 2 Dam, Turkey (<u>Ç. Tekatlı</u> is a Young Scientist Award contestant)
12:00 - 12:15	<u>J.B. MARNISSI</u> , L. REBECHI, A. AZZOUNA & R. BERTOLANI - Checklist of Tardigrada in northern Tunisia (<u>J. B. Marnissi</u> is a Young Scientist Award contestant)
12:15 - 12:30	<u>B.P.L. RAMSAY</u> , P.M. RAMSAY & N.J. MARLEY - The structure of tardigrade communities at fine spatial scales in an Andean <i>Polylepis</i> forest
12:30 - 12:45	D. STEC, W. MOREK, P. GAŠIOREK & Ł. MICHALCZYK - DNA barcoding and tardigrade species diversity
12:45 - 13:45	LUNCH

13:45 - 15:15 Session 3 General Ecology & Behavior - Chairs: Greven & Michalczyk

13:45 - 14:00	M. VECCHI, I.L.G. NEWTON, M. CESARI, L. REBECHI & <u>R. GUIDETTI</u> - Microbiome of tardigrades
14:00 - 14:15	<u>M. BRYNDOVÁ</u> , D. STEC, Ł. MICHALCZYK & M. DEVETTER - Tardigrade dietary preferences and diet effects on tardigrade life history traits
14:15 - 14:30	<u>A. YOUNG</u> , M. BARKLEY, S.M. KIRKPATRICK, R.D. YANAI & W.R. MILLER - Tardigrade community response to nitrogen and phosphorous addition (<u>A. Young</u> is a Young Scientist Award contestant)
14:30 - 14:45	<u>H.A. MEYER</u> , H. LARSEN, N.O. AKOBI & G. BROUSSARD - Predator and prey interaction in <i>Milnesium lagniappe</i> and <i>Macrobiotus acadianus</i>
14:45 - 15:00	<u>K. SUGIURA</u> , H. MINATO, A.C. SUZUKI, K. ARAKAWA, T. KUNIEDA & M. MATSUMOTO - Comparison of sexual reproductive behaviors in two species of Macrobiotidae (<u>K. Sugiura</u> is a Young Scientist Award contestant)
15:00 - 15:15	<u>J. REICHELT</u> , A. WOKURKA, L. HERING & G. MAYER - Phototactic behaviour in the eutardigrade <i>Hypsibius exemplaris</i> (<u>J. Reichelt</u> is a Young Scientist Award contestant)
15:15 - 15:45	COFFEE/TEA

15:15 - 16:45 Poster session 1 continued - Please remove posters after session



WEDNESDAY 1/8-18

08:00 - 09:45 Poster installation (Session 2) & Keynote 2 - Chair: Ramløv

- 08:00 - 09:00 Poster installation for posters in Poster session 2
 09:00 - 09:45 T. KUNIEDA - The rise of a tardigrade-unique toolbox for extremotolerance

09:45 - 10:30 Session 4.1 Omics, Physiology & Cryptobiosis - Chairs: Kunieda & Ramløv

- 09:45 - 10:00 Y. FUKUDA, Y. MIURA, K. JEEUN, T. MATSUSAKI, S.K. SHIN, Y. LIXIN & T. INOUE - Launching out into structural genomics on anhydrobiotic tardigrades
 10:00 - 10:15 Y. YOSHIDA, G. KOUTSOVoulos, D.R. LAETSCH, L. STEVENS, S. KUMAR, D.D. HORIKAWA, K. ISHINO, S. KOMINE, T. KUNIEDA, M. TOMITA, M. BLAXTER & K. ARAKAWA - Comparative genomics of the tardigrades *Hypsibius dujardini* and *Ramazzottius varieornatus* (*Y. Yoshida* is a Young Scientist Award contestant)
 10:15 - 10:30 M.A. MAPALO & G. GIRIBET - Tardigrades differ from other panarthropods in their antibacterial gene repertoire (*M.A. Mapalo* is a Young Scientist Award contestant)

10:30 - 11:00 COFFEE/TEA

11:00 - 12:30 Session 4.2 Omics, Physiology & Cryptobiosis - Chairs: Guidetti & Schill

- 11:00 - 11:15 M. KAMILARI, A. JØRGENSEN, M. SCHIØTT & N. MØBJERG - Transcriptomes from *Echiniscoides sigismundi* and *Richtersius coronifer* provide new insights into lineage specific gene content
 11:15 - 11:30 D.K. PERSSON, G. GIRIBET, B. LEMOS & R. FERNÁNDEZ - Differential gene expression in the heterotardigrade *Echiniscus testudo* during desiccation
 11:30 - 11:45 K. KONDO, M. MORI, M. TOMITA & K. ARAKAWA - Investigation of regulatory mechanisms of anhydrobiosis in *Hypsibius dujardini* by phosphoproteomics
 11:45 - 12:00 L. REBECHI, I. GIOVANNINI, T. ALTIERO, G. MONTORFANO, R. GUIDETTI & A.M. RIZZO - Antioxidant defense activity under anhydrobiosis in two desiccation tolerant eutardigrades
 12:00 - 12:15 I. GIOVANNINI, T.C. BOOTHBY, B. GOLDSTEIN, M. CESARI & L. REBECHI - Functional roles of bioprotectants during dehydration and rehydration in *Paramacrobiotus richtersi* revealed by RNA interference
 12:15 - 12:30 M. ROSZKOWSKA, B. GOŁDYN, D. GROBYS, H. KMITA, J.Z. KOSICKI, D. STEC & Ł. KACZMAREK - Differences in tolerance to anhydrobiotic conditions among tardigrade species

12:30 - 13:30 LUNCH

13:30 - 14:30 Session 4.3 Omics, Physiology & Cryptobiosis - Chairs: Nelson & Rebecchi

- 13:30 - 13:45 N. NYMANN, T.L. HYGUM-SØRENSEN & N. MØBJERG - Non-electrolyte solutions induce tun-formation and osmobiotic survival in *Echiniscus testudo* (*N. Nymann* is a Young Scientist Award contestant)
 13:45 - 14:00 J.G. HANSEN & S. FUJIMOTO - Tun formation in the marine arthrotardigrade *Archechiniscus* (Archechiniscidae) from the tidal zone of Kitahama beach, Seto, Japan
 14:00 - 14:15 S.B. MORGAN & N. MØBJERG - New insights into cryobiosis and storage cell dynamics in *Ramazzottius oberhauseri* (*S. B. Morgan* is a Young Scientist Award contestant)
 14:15 - 14:30 B.H. PEDERSEN, K. FINSTER & H. RAMLØV - Respiration and metabolic rate of *Richtersius coronifer* determined using O₂-microsensor technology (*B.H. Pedersen* is a Young Scientist Award contestant)

15:00 - 15:30 COFFEE/TEA

15:00 - 16:30 Poster session 2: Posters S2.P1-S2.P33

**THURSDAY 2/8-2018****09:00 - 10:30 Session 5 Anatomy, Development & Reproduction - Chairs: Altiero & Hohberg**

- 09:00 - 09:15 F. SMITH, M. CUMMING & B. GOLDSTEIN - Analyses of nervous system patterning genes in the tardigrade *Hypsibius dujardini* support a unipartite tardigrade brain
- 09:15 - 09:30 E. BUSCH, R. SUBRAMANIAN & J. HÖÖG - Ciliary structures revealed by cryopreparation and electron microscopy of *Hypsibius dujardini*
- 09:30 - 09:45 K. JANELT, M. JEZIERSKA, S. STUDENT & I. POPRAWA - Germ cell clusters organisation and their fate during oogenesis in Parachela
- 09:45 - 10:00 M. TSUJIMOTO, H. KANDA & S. IMURA - Reproductive performance of individuals of an Antarctic tardigrade revived after being frozen for over 30 years, and of their offspring (*M. Tsujimoto* is a Young Scientist Award contestant)
- 10:00 - 10:15 T. VASANTHAN, J.P. NEDERVEEN & J. STONE - Snow White water bears – quantum-like decreased embryogenesis time for tardigrades reared with increased cold exposure time
- 10:15 - 10:30 P.M. RAMSAY & M. TSUJIMOTO - Modelling reproductive phenology of tardigrades: a new approach
- 10:30 - 11:00 COFFEE/TEA**

11:00 - 12:00 Session 6 Astrobiology, Imaging & Rearing Methods - Chairs: Jönsson & Kaczmarek

- 11:00 - 11:15 V. GROSS, M. MÜLLER & G. MAYER - X-ray vision: 3D imaging of whole tardigrades using nanocomputed tomography (*V. Gross* is a Young Scientist Award contestant)
- 11:15 - 11:30 T. ALTIERO, L. REBECCHI & K. HOHBERG - Tardigrade rearing methods: a review
- 11:30 - 11:45 M. AFZAL, G. DESTGEER, J. PARK, H. AHMED, S. KANG, S. KIM, T.-S. YOON & H.J. SUNG - Microfluidic separation of tardigrade *Hypsibius dujardini* from raw culture for on-demand sample preparation (*M. Afzal* is a Young Scientist Award contestant)
- 11:45 - 12:00 T.-S. YOON & S. KANG - Tardigrade space research — past, present & future
- 12:00 - 12:30 GROUP PHOTO**
- 12:30 - 13:30 LUNCH**

13:30 - 14:45 Keynote 3 & 4 - Closing Remarks - Chair: Møbjerg

- 13:30 - 14:00 M. BLAXTER, D. LAETSCH, L. STEVENS, G. KOUTSOVOULOS, S. KUMAR, K. ARAKAWA, Y. YOSHIDA, D. LUNT, L. BACHMANN, Ł. MICHALCZYK & S. FUJIMOTO - Phylogenomics, gene families and the phylogenetic position of Tardigrada within Ecdysozoa
- 14:00 - 14:30 K. ARAKAWA, Ł. MICHALCZYK, S. FUJIMOTO, Y. MURAI & M. TOMITA - Phylum-wide genome sequencing of Tardigrada
- 14:30 - 14:45 Closing Remarks & Intro to Krakow 2021
- 15:00 - 15:30 COFFEE/TEA and Olympus compound microscope demonstration (room 2.0.17)**

14:45 - 16:15 Poster session 2 continued - Please remove posters after session**18:00 - 23:30 Symposium Dinner at the National Museum of Denmark****FRIDAY 3/8 2018**

- 08:00 - 12:00 Workshop - Inspection of selected type material
- 12:00 - 13:00 Lunch pick up at Biocenter
- 13:00 - 17:00 Excursion - City of Copenhagen



Taxonomy, Phylogeny & Evolution

S1.P1. J.-H. KIHM, S. KIM & T.-Y. S. PARK - A new species of *Dactylobiotus* (Parachela, Eutardigrada) from King George Island, Antarctica (*J.-H. Kihm is a Young Scientist Award contestant*)

S1.P2. Ł. KACZMAREK, R. GUIDETTI, M. K. JAGADEESH & M. ROSZKOWSKA - New tardigrade species from India and the problems with taxonomic status of *Macrobiotus occidentalis* Murray, 1910

S1.P3. Ł. KACZMAREK, F. SMITH, M. ROSZKOWSKA & P. BARTELS - A possible new genus of Heterotardigrada

S1.P4. A. KULPA, T. BARTYLAK, D. GROBYS, M. KEPEL, A. KEPEL, H. KMITA, M. ROSZKOWSKA & Ł. KACZMAREK - Two new *Echiniscus* species or only one? (*A. Kulpa is a Young Scientist Award contestant*)

S1.P5. R. BERTOLANI, M. CESARI, I. GIOVANNINI, L. REBECHI, R. GUIDETTI, Ł. KACZMAREK & G. PILATO - The *Macrobiotus polonicus-persimilis* group (Eutardigrada, Macrobiotidae), another example of problematic species identifications in tardigrades

S1.P6. D. GROBYS, M. ROSZKOWSKA, H. KMITA, I. PARNIKOZA & Ł. KACZMAREK - Challenging taxonomy of *Pseudechiniscus suillus* complex (*D. Grobys is a Young Scientist Award contestant*)

S1.P7. H. GREVEN & H. DASTYCH - Ferdinand Richters (1849–1914) – a major “tardigradologist” at the beginning of the 20th century

S1.P8. P. GASIOREK & Ł. MICHALCZYK - Phylogeny of Itaquasconinae in the light of new integrative analyses and the discovery of a new genus from Borneo (*P. Gąsiorek is a Young Scientist Award contestant*)

S1.P9. P. GASIOREK & Ł. MICHALCZYK - Deceptive conservatism of claws: distinct phyletic lineages hidden within the Isohypsibioidea (Eutardigrada: Parachela) (*P. Gąsiorek is a Young Scientist Award contestant*)

S1.P10. D. J. ISAAK & G.T. GROTHMAN - *Apodibius confusus* in Fish Creek Provincial Park, Alberta, Canada

S1.P11. H. MINATO, K. SUGIURA, M. MATSUMOTO & A.C. SUZUKI - Morphological and phylogenetic analyses of *Milnesium* cf. *tardigradum* found in Japan (*H. Minato is a Young Scientist Award contestant*)

S1.P12. Ł. KRZYWAŃSKI, D. STEC & Ł. MICHALCZYK - An integrative description of *Richtersius coronifer* (Richters, 1903) from the original *locus typicus* in Spitsbergen (*Ł. Krzywański is a Young Scientist Award contestant*)

S1.P13. B.D. LÓPEZ-SANDOVAL, G. MONTIEL-PARRA & T.M. PÉREZ - Preliminary study of the tardigrades of La Malinche National Park, Tlaxcala, Mexico (*B.D. López-Sandoval is a Young Scientist Award contestant*)

S1.P14. L.A.M. ITANG, M.A. MAPALO, D. STEC, Ł. MICHALCZYK & D. MIRANO-BASCOS - A discovery and phylogenetic analysis of a putative novel species of a limnoterrestrial tardigrade from Diliman, Quezon City, Philippines

S1.P15. Ł. MICHALCZYK, D. STEC, P. GASIOREK, W. MOREK, P. KOSZTYŁA, K. MICHNO, K. ZAWIERUCHA & Z. PROKOP - Are one-to-one morphometric comparisons reliable in tardigrade species identification?

S1.P16. S. Neitzel & E. Perry - A revaluation of *Diphascon pingue brunsvicense* (*S. Neitzel is a Young Scientist Award contestant*)

S1.P17. M. ROSZKOWSKA, D. GROBYS, K. ZAWIERUCHA, H. KMITA & Ł. KACZMAREK - Clarification of taxonomic status and geographic distribution of *Echiniscus merokensis* Richters, 1904 *sensu lato* in the light of integrative taxonomy (*M. Roszkowska is a Young Scientist Award contestant*)

S1.P18. M. ROSZKOWSKA, D. STEC, M. KEPEL, A. KEPEL, T. BARTYLAK, A. KULPA, H. KMITA & Ł. KACZMAREK - Remarks and updated key to the genus *Mesobiotus* Vecchi, Cesari, Bertolani, Jönsson, Rebecchi & Guidetti, 2016 (Eutardigrada, Macrobiotidae) and description of a new species from the Republic of Madagascar (*M. Roszkowska is a Young Scientist Award contestant*)



POSTER SESSION 1: MONDAY – TUESDAY (30-31/7 - 2018)

S1.P19. E. PERRY, H. MEYER, P. FONTOURA & W.R. MILLER - Splitting the *Pseudechiniscus* line

S1.P20. B. SURMACZ, W. MOREK & Ł. MICHALCZYK - Classification of instars in the genus *Milnesium* Doyère, 1840 based on morphometric data (*B. Surmacz is a Young Scientist Award contestant*)

S1.P21. H.A. MEYER, C. JOHANSSON, K.J.A. JACKSON, N.O. AKOBI, M. TSALIKI & W.R. Miller - Morphological and genetic data show that North American *Diploechiniscus* are not *Diploechiniscus oihonnae*

S1.P22. W. MOREK, B. SURMACZ & Ł. MICHALCZYK - A new species of the genus *Milnesium* Doyère, 1840 with an intriguing pattern of ontogenetic variability in claw configuration (*W. Morek is a Young Scientist Award contestant*)

S1.P23. K. JACKSON & H.A. MEYER - Morphological and molecular analysis of *Milnesium cf. granulatum* from New Hampshire, USA

S1.P24. K. JACKSON, H.A. MEYER, M. TSALIKI & J.G. HINTON - Genetic variability within and among species of *Milnesium*

Biodiversity & Biogeography

S1.P25. T. BARTYLAK, A. KULPA, S. BORUSIAK, M. KEPEL, A. KEPEL, M. ROSZKOWSKA & Ł. KACZMAREK - New records and species of Tardigrada from Republic of Madagascar

S1.P26. W. PROESMANS - A survey of the Belgian tardigrade fauna (*W. Proesmans is a Young Scientist Award contestant*)

S1.P27. L. TOPSTAD, R. GUIDETTI & T. EKREM - The tardigrade diversity of an oak forest in Southern Norway (*L. Topstad is a Young Scientist Award contestant*)

S1.P28. M. CESARI, M. MONTANARI, R.M. KRISTENSEN, R. GUIDETTI, R. BERTOLANI & L. REBECHI - An integrated study of the biodiversity within *Pseudechiniscus* (Heterotardigrada, Echiniscidae)

S1.P29. T. EKREM, R. GUIDETTI, K. I. JÖNSSON, Ł. KACZMAREK, T. MEIER, E. STUR, T. PRESTØ, K. HASSEL, K. HÅRSAKER, L. TOPSTAD & I. GJERDE - Tardigrades in Norwegian forests

S1.P30. K. SHORT, S. McINNES, D. PISANI & P. CONVEY - What's in a Size? Phenotypic variation across *Acutuncus antarcticus* populations

S1.P31. N.C. STEPHENS & S.S. THIRUGNANASAMBANDAN - Indian scenario of marine tardigrade research (*N.C. Stephens is a Young Scientist Award contestant*)

S1.P32. A.G. REYES, A.M. ROCHA, J. CORRONCA, S.R. ARTIGAS, I. DOMA, B. OSTERTAG & A. GRABOSKY - Effects of urbanization on the tardigrade communities in the Argentine Republic

S1.P33. I. GIOVANNINI, R.O. SCHILL, M. FÖRSCHLER, C. EBEL & R. GUIDETTI - Tardigrade inventory in the Black Forest National Park

S1.P34. S. SCHULZE & E. PERRY - The first record of marine tardigrades from New Jersey, USA (*S. Schulze is a Young Scientist Award contestant*)

S1.P35. A. YOUNG, A. AMBROSE, W. BAXTER & W.R. Miller - Tardigrades in the canopy: are water bears at the top of the giant Sequoia? (*A. Young is a Young Scientist Award contestant*)

S1.P36. K. VONČINA, P. GAŠIOREK & Ł. MICHALCZYK - *Echiniscus testudo* from New Zealand: human-aided dispersal or evidence for the "Everything is Everywhere" hypothesis?

S1.P37. M. RUBAL, P. FONTOURA & P. VEIGA - A new species of *Macrobiotus* from rocky shore supralittoral level of North Portugal

S1.P38. M. TSALIKI, H.A. MEYER, N.O. AKOBI & J.G. HINTON - Unfolding the mystery behind *Echiniscus cf. africanus* in Hawaii (*M. Tsaliki is a Young Scientist Award contestant*)

S1.P39. M. TSALIKI, H.A. MEYER, N.O. AKOBI & J.G. HINTON - A new species of the *Echiniscus viridis* group from the Hawaiian Islands (*M. Tsaliki is a Young Scientist Award contestant*)

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General Ecology

S2.P1. J. BINGEMER, K. HOHBERG & M. PFEIFFER - First 12 years of tardigrade succession in the young soils of a quickly evolving ecosystem (*J. Bingemer is a Young Scientist Award contestant*)

S2.P2. C. DUVAL, S. HAMLAOUI & E. DELAGOUTTE - Resistance of tardigrades to cyanotoxins

S2.P3. R. BONINI, T. ALTIERO, I. GIOVANNINI, M. CESARI, N. VOLPI, V. MANTOVANI, L. CHERSONI, R. GUIDETTI & L. REBECHI - *Acutuncus antarcticus*: an emerging model animal to predict the effect of global warming on sensitive ecosystems (*R. Bonini is a Young Scientist Award contestant*)

S2.P4. K. JANELT, A. ŚMIECH & I. POPRAWA - Encystment in *Thulinius ruffoi* (Parachela: Isohypsibiidae) (*K. Janelt is a Young Scientist Award contestant*)

S2.P5. W. ROBERTSON, N.J. RUSSO, S.J. McINNES, B. GOFFINET & J.E. Jiménez - Live tardigrades recovered from faeces of White-bellied Seedsnipe (*Attagis malouinus*)

S2.P6. R. GUIDETTI, E. GNEUß, R.O. SCHILL & T. ALTIERO - Life-history trait of a bisexual tardigrade species *Mesobiotus* sp. nov. (Eutardigrada; Macrobiotidae) from Elba Island, Italy

S2.P7. M. ROSZKOWSKA & Ł. KACZMAREK - Recovery of a moss dwelling eutardigrade (*Macrobiotus* cf. *hufelandi*) dried for over 15 years (*M. Roszkowska is a Young Scientist Award contestant*)

S2.P8. Y.-N. CHOI, H.G. JEONG & S.-G. JO - Seasonal abundance of two marine tardigrades, *Echiniscoides sigismundi* and *Styraconyx haploceros*, inhabiting the barnacle *Fistulobalanus albicostatus* at an intertidal zone, western coast of Korea (*Y.-N. Choi is a Young Scientist Award contestant*)

Omics, Physiology & Cryptobiosis

S2.P9. T. SAIGO, M. ITO, K. SATOH, T. KUBO & T. KUNIEDA - Tolerance to gamma radiation in the desiccation-sensitive tardigrade *Isohypsibius myrops* (Parachela, Eutardigrada) (*T. Saigo is a Young Scientist Award contestant*)

S2.P10. D. GROBYS, W. RZEŽNICZAK, M. OSIECKA, Ł. KACZMAREK, R. SOBKOWIAK, M. ROSZKOWSKA & H. KMITA - Mitochondrial alternative oxidase contribution to successful tardigrade anhydrobiosis

S2.P11. J. SIEGER, F. BRÜMMER & R.O. SCHILL - Effects on longevity traits in frozen tardigrades

S2.P12. M. ROSZKOWSKA, A. KARACHITOS, D. GROBYS, A. KULPA, T. BARTYLAK, Ł. KACZMAREK & H. KMITA - Untargeted metabolomic profiling in search for metabolic markers of successful tardigrade anhydrobiosis (*M. Roszkowska is a Young Scientist Award contestant*)

S2.P13. S. SHIBATA, Y. NAGAI, T. TOYOHUKU, K. ARAKAWA & T. MIWA - Osmotic stress tolerance by the tidal tardigrade *Echiniscoides* spp. (*S. Shibata is a Young Scientist Award contestant*)

S2.P14. A. LYONS & C. WILLIAMS - Ice-binding proteins as a potential mechanism to survive freezing: ice-affinity purification and characterization of IBP homologs in *Hypsibius dujardini* (*A. Lyons is a Young Scientist Award contestant*)

S2.P15. M. CZERNEKOVA & K.I. JÖNSSON - Level of desiccation under different relative humidities in the tardigrade *Richtersius coronifer* (*M. Czernekova is a Young Scientist Award contestant*)

S2.P16. H. GEMRICH, R.L. DUNN, V. MADHAVAN & S. KATO - Forays into generation of transgenic *Hypsibius dujardini*

S2.P17. R. SHIBAHARA, K. HIZUME, T. HASHIMOTO, H. ARAKI, T. KUBO & T. KUNIEDA - AFM analysis of DNA binding mode of a novel DNA-protection protein, Dsup, unique to a radiotolerant tardigrade (*R. Shibahara is a Young Scientist Award contestant*)

S2.P18. Y. MURAI, M. FUJIWARA, M. TOMITA & K. ARAKAWA - Multi-omics study of a heterotardigrade *Echiniscus* cf. *testudo* suggests convergent evolution of anhydrobiosis in Tardigrada (*Y. Murai is a Young Scientist Award contestant*)

POSTER SESSION 2: WEDNESDAY – THURSDAY (1-2/8 – 2018)



S2.P19. M. RICHAUD, M. KUZMIC, P. CUQ, S. FRELON & S. GALAS - A new *in situ* labelling technique uncovers carbonyl accumulation in the tardigrade *Hypsibius dujardini* (Doyère, 1840)

S2.P20. M. DEICHMANN, M. KAMILARI, S.B. MORGAN, L.K.B. HVIDE PIL, N. NYMANN & N. MØBJERG - Investigating candidate genes of cryobiosis in the eutardigrade *Ramazzottius oberhaeuseri* through real-time qPCR quantification of differential expression (*M. Deichmann is a Young Scientist Award contestant*)

S2.P21. A. KARACHITOS, D. GROBYS, M. ROSZKOWSKA, Ł. KACZMAREK & H. KMITA - Application of fluorescent dyes to evaluate mitochondrial energetic status and oxidative stress during tardigrade anhydrobiosis

S2.P22. T. NIKUPAAVOLA, S. CALHIM, E. KNOTT - Gene expression patterns during anhydrobiosis in *Hypsibius exemplaris*

Anatomy, Development & Reproduction

S2.P23. S. BARTEL & K. HOHBERG - Awaiting Mr. Perfect - how female tardigrades attract their males

S2.P24. D.D. HORIKAWA, W. ABE, K. SUGIURA, M. MATSUMOTO & R. BERTOLANI - Characterization of the reproductive mode in the tardigrade *Ramazzottius varieornatus*

S2.P25. M. ROST-ROSZKOWSKA, K. JANELT, M. MOTYL, M. DOMAGAŁA & I. POPRAWA - Fine structure of the midgut epithelium in two species of Macrobiotidae (Eutardigrada, Parachela)

S2.P26. M. RICHAUD, E. L. GOFF, N. GODEFROY, C. CAZEVIELLE, F. ONO, Y. MORI, N.L. SAINI, P. CUQ, S. BAGHDIGUIAN & S. GALAS - Ultrastructural analysis of the dehydrated tardigrade *Hypsibius dujardini* (Doyère, 1840) unveil an anhydrobiotic specific architecture

S2.P27. T. VAN DE KAMP, M. ZUBER, T. BAUMBACH & H. GREVEN - Capabilities and limits of micro-CT shown with Tardigrada

Astrobiology, Methods, Modelling & Teaching

S2.P28. M.K. JAGADEESH, M. ROSZKOWSKA & Ł. KACZMAREK - Earth-like and tardigrade survey of exoplanets and Mars

S2.P29. L. REBECCHI, M. CESARI, T. ALTIERO, I. GIOVANNINI, N. SAENDIG, P. LOI, T. KIKAWADA & R. GUIDETTI - DRYNET project: an international research network to explore dry storage as an alternative strategy to cryostorage

S2.P30. R.L. DUNN, V. MADHAVAN, H. GEMRICH & S. KATO - Developing quantitative, automated methods for assaying tardigrade behaviors

S2.P31. S. MIN & J. STONE - e-Tardigrada – a computational model for testing hypotheses about water bear life history and conducting astrobiology research

S2.P32. A. IRVINE, C. BOSCHETTI & N.J. MARLEY - The challenges establishing terrestrial tardigrade cultures, fungal infections

S2.P33. J. LEAR, C. BOSCHETTI & N.J. MARLEY - Challenges of establishing terrestrial tardigrade cultures

S2.P34. H. DUNDERDALE, H. JACKSON, M. BIERMAN & A. RANDOLPH - Use of tardigrades to implement classroom research projects

S2.P35. K. RENZAGLIA, H. DUNDERDALE & D. NELSON - Tardigrades are ideal for teaching scientific inquiry and research skills

Please remove posters Thursday afternoon

