



5th International Congress on Invertebrate Morphology  
8 - 12 August 2022 in Vienna, Austria

# Pocket Guide

Abstracts & Program:



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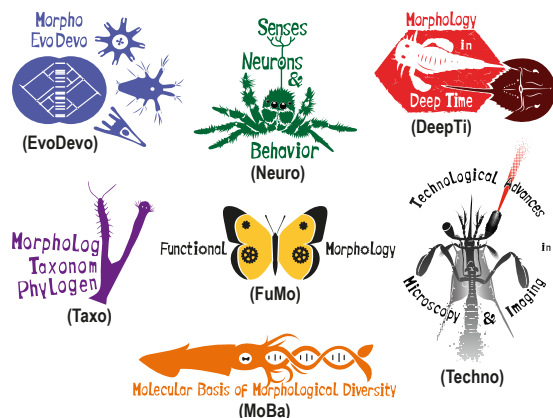


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## Abbreviations



➤ LH (Lecture Hall) ➤ SR (Seminar Room) ➤ Me (Mensa/Cantine)



## Monday

**Main Ceremonial Hall, Universitätsring 1, 1010 Vienna**

18<sup>00</sup> - 22<sup>00</sup>

**Welcome Reception**  
**Registration**  
**Ice Breaker**

## Tuesday

**Biology Building, Djerassi-Platz 1, 1030 Vienna**

09<sup>00</sup> - 09<sup>30</sup>

**Opening Remarks** ➤ LH1  
**Plenary**  
**Kakani Katija**  
Fantastic beasts and where to find them:  
Giant larvaceans in the ocean's midwaters

## Coffee Break

	FuMo ➤ LH1	Taxo ➤ LH2	Techno ➤ SR1.5
11 <sup>00</sup>	<b>KEYNOTE</b> <b>Oliver Betz</b> Linking insect functional morphology to ecology and evolution: basic concepts explained via specific examples	<b>KEYNOTE</b> <b>Rich Mooi</b> No heads or tails in echinoderm origins: Uniquely derived body axes in development and evolutionary history	<b>KEYNOTE</b> <b>Pavel Tomancak</b> Imaging tools to study morphogenesis across species
11 <sup>30</sup>	<b>Jakob Krieger</b> Architectural constraints on speciation? Remodeled homes and adaptive radiation in hermit crabs	<b>Magdalini Christodoulou</b> Insights in the echinoderm "dark" abyssal biodiversity	<b>M. Carmen Cobo</b> High resolution computed tomography for the study and characterization of hard parts in Solenogastres (Mollusca, Aplousobranchia)
11 <sup>45</sup>	<b>Alexandre Casadei-Ferreira</b> Biomechanical implications of shape variation in ectatommine ants sting	<b>Greg Rouse</b> Observations on deep-sea <i>Xenoturbella</i>	<b>Anna J. Phillips</b> Using microCT to document macrobenthic leech morphology
12 <sup>00</sup>	<b>* Julian Katzke</b> Evolution of morphological diversity in ant mandibles	<b>* Lenke Tödter</b> The challenging identification of the meiofaunal cnidarian <i>Halammohydra</i>	<b>* Emma J. Long</b> Using confocal microscopy to model the first land animals in 3D

## Tuesday

**Biology Building, Djerassi-Platz 1, 1030 Vienna**

12<sup>15</sup> - 12<sup>30</sup>

FuMo ➤ LH1	Taxo ➤ LH2	Techno ➤ SR1.5
<b>* Erich L. Spiessberger</b> Mouthparts and the internal head morphology in rove beetles (Coleoptera, Staphylinidae)	<b>Annemarie Avenant-Oldewage</b> Additional information on the morphology of <i>Rhabdochona essenia</i> from <i>Labeobarbus aeneus</i> in the Vaal River in South Africa as revealed through novel methods	<b>Sebastian Schmelzle</b> The Darmstadt Insect Scanner DISC3D and its application in the digitization of insect collections

**Lunch & Break**

FuMo ➤ LH1	MoBa ➤ LH2	DeepTi ➤ SR1.5
14 <sup>00</sup> <b>Wencke Krings</b> Functional gradients in gastropod radular teeth reflect trophic adaptations, a combined approach	<b>KEYNOTE</b> <b>Christina Zakas</b> Maternal genotype changes transcriptomic provisioning of oocytes	<b>KEYNOTE</b> <b>Xiaoya Ma</b> A can of cambrian worms
14 <sup>15</sup> <b>Sebastian Büsse</b> How dragonfly larvae catch prey: functional morphology and biomechanics	<b>* Tobias Theska</b> Old tools for novel tasks: the roles of conserved nuclear receptors in the evolution of phenotypically plastic "teeth" in diplogastrid nematodes	<b>Joachim T. Haug</b> Conceptual & practical challenges & chances of using quantitative morphology as a tool for comparing diversity through time - lacewing larvae as an example
14 <sup>30</sup> <b>Leif Moritz</b> Fluid feeding in millipedes and its consequences for their internal organs	<b>* Shoyo Sato</b> Peeling back the Onychophora: an exploration of the genes in the genome of <i>Epiperipatus broadwayi</i> with notes on the evolution of ecdysis	<b>Jeffrey R. Thompson</b> Origins of the echinozoan body plan
14 <sup>45</sup> <b>Matthew S. Lehnert</b> Adaptations for gas exchange enabled the elongation of lepidopteran proboscises	<b>* Felipe Aguilera</b> The genome of <i>Tetrapygus niger</i> reveals a conserved biomimetic protein repertoire over 200 million years of sea urchin evolution	<b>* Francesc Perez-Peris</b> Phylogenetics and systematics of the trilobite subfamilies Cheirurinae and Deiphoninae: shedding light on the basal relationships
15 <sup>00</sup> <b>* Simon Züger</b> Are centipedes heavy metal? Investigation of cuticular components and metals in the centipede forcipule	<b>Miloš Vittori</b> The formation and putative function of microscopic spheres on the cuticular surface of the terrestrial isopod <i>P. pruinosus</i>	<b>Jakub Prokop</b> Hidden cuticular microstructures revealed by application of modern microscopy techniques on compressed insect fossils and amber inclusions
15 <sup>15</sup> <b>M. Andrew Jansen</b> Functionally graded cuticle in Polyneopteran head capsules	<b>* David Salamanca-Diaz</b> How to build a bivalve: Lessons from gene expression and single-cell RNA sequencing analyses	<b>* Joshua Gauweiler</b> Please don't eat me - mechanical caterpillar defences through time
15 <sup>30</sup> <b>* Giovanni Sanna</b> Investigating the 3D skeletal architecture of deep-water corals in relation to hydrodynamics	<b>* Petra Kovacikova</b> A neoblast-like cell population in nemertodermatid species <i>Meara stichopi</i>	<b>Viktor Baranov</b> Multiple losses and re-acquisitions of blood feeding in non-biting midges

16<sup>00</sup> **Coffee Break**

## Tuesday

**Biology Building, Djerassi-Platz 1, 1030 Vienna**

16<sup>30</sup>

**Forum Discussion** ➤ LH1  
**Pawel Burkhardt**  
The evolutionary origin of neuronal signalling machinery and animal cell differentiation  
**Jordi Paps**  
The origin and evolution of the animal kingdom, a genomic view.  
**Darrin T. Schultz**  
Ancient gene linkages show that ctenophores are sister to other animals  
Chair: **Andreas Schmidt-Rhaesa**

## Break

18<sup>30</sup> - 19<sup>45</sup>

**Public Talk** ➤ LH1  
**Günther Pass**  
At the crossroads of ecology and history: Vienna from a biologist's perspective

## Wednesday

**Biology Building, Djerassi-Platz 1, 1030 Vienna**

09<sup>00</sup>

**Plenary** ➤ LH1  
**Néva Meyer**  
All brains no brawn: Evidence for autonomous specification of the ventral nerve cord in the annelids *Capitella teleta* & *Platynereis dumerilii*

## Coffee Break

Taxo ➤ LH1	EvoDevo ➤ LH2
10 <sup>30</sup> <b>* Piotr Gąsiorek</b> Phylogeny of armoured microbeards (Tardigrada: Echiniscidae): plates, hairs and bristles	<b>KEYNOTE</b> <b>Patricia Álvarez-Campos</b> Annelid regeneration and reproduction: from morphology to single-cell sequencing
10 <sup>45</sup> <b>Matteo Vecchi</b> Evolution of sperm morphology in Macrobiotidae (Tardigrada)	<b>James P. Bernot</b> The evolution of parasitism in copepods: phylogeny, diversity, and morphology
11 <sup>00</sup> <b>Martin Schwentner</b> Testing the success of palaeontological methods in the delimitation of extant clam shrimp species (Crustacea: Branchiopoda) - an integrative approach	<b>Pedro Martinez</b> The acoel body plan. Morphology and enomics.
11 <sup>15</sup> <b>Zita Rothmair</b> Insights into the morphology of secondary sexual characters of male lithobid centipedes (Chilopoda, Lithobiomorpha)	<b>Jörn von Döhrren</b> Is the prototroch derived from an ancient transitory epidermis in Spiralia?
11 <sup>30</sup> <b>Markus Koch</b> Homology of the labium in Remipedia and Hexapoda revisited	<b>* Hugh Carter</b> Making stars: understanding the drivers behind different larval strategies through investigation of starfish at micro- and macroscopic scales
11 <sup>45</sup> <b>Margarita I. Yavorskaya</b> Anatomy of the highly specialized beaver beetle <i>Platypyllus castoris</i> (Leiodidae, Coleoptera)	<b>Maryna P. Lesoway</b> Precocious sperm exchange in the simultaneously hermaphroditic nudibranch, <i>Berghia stephanieae</i>
12 <sup>00</sup> <b>Joel Vikberg Wernström</b> Meiofaunal diversity in the Barents Sea	<b>Katrine Rudsaae</b> How to reduce body size: a dwarf male's tale
12 <sup>15</sup> <b>Joel Vikberg Wernström</b> Meiofaunal diversity in the Barents Sea	<b>Gonzalo Giribet</b> From the Poles to southern Europe: discovery of Micrognathozoa in the Val d'Aran (Spanish Pyrenees)

# Wednesday



 **Biology Building, Djerassi-Platz 1, 1030 Vienna**

## 12<sup>30</sup> Lunch & Break

12<sup>30</sup>  **WILEY**  **SR1.5**  
Lunch Workshop @ ICIM<sup>5</sup>


FuMo > LH1		EvoDevo > LH2	
<b>Martin Horstmann</b> Unravelling the adaptive benefit of predator-induced defences	<b>* Paul Kalke</b> Annelid head appendages in a nutshell - lessons from the diversity of anterior head structures in Nereididae	<b>* Florian Braig</b> Phenotypic plasticity in body morphology during development in the European shore crab	<b>Ekin Tilic</b> Tiny 3D printers of bristle worms - the dynamic development of annelid chaetae
<b>* Alice Guenther</b> A unique yet technically simple type of joint allows for the high mobility of scorpion tails	<b>Thomas Bartolomeaus</b> Structure, developmental fate and evolutionary transformations of head kidneys in Annelida	<b>Fábio G. L. Oliveira</b> On springtails (Hexapoda: Collembola): A morphofunctional study of the jumping apparatus	<b>Ivo S. Oliveira</b> Structure and development of the tracheal system in Onychophora (velvet worms)
<b>Alejandro Damian-Serrano</b> The evolution of salp colony architectures and its consequences for multi-jet locomotion	<b>* Iulia Barutia</b> How to build a leg: regeneration and development in post-embryonic stages of <i>Scutigera coleoptrata</i> (Chilopoda)	<b>* Julian Thomas</b> Investigation of the topography and material properties of the adhesive secretion of Phasmatodea	<b>María Herranz</b> How do mud dragons (Kinorhyncha) grow? Insights from an integrative developmental study
<b>Peter Smirnov</b> Miracidia with passive strategy of infection. Obscured life of highly miniaturized organisms (Trematoda: Digenea)	<b>Emanuel Redl</b> Development of the chaetodomorph aplacophoran <i>Scutopus schanderi</i> (Mollusca, Caudofoveata)	<b>Jessica A. Goodheart</b> Movement and storage of nematocysts across development in the nudibranch <i>Berghia stephanieae</i>	<b>* Ana Zippel</b> Hidden within the plant: morphology of fossil xylophagous beetle larvae

Flash Talks > LH1		Flash Talks > LH2	
<b>P37 Anne Urban</b>	<b>P21 Oliver Link</b>	<b>P11 Svetlana Gruetzk</b>	<b>P41 Nicolás Zúñiga-Soto</b>
<b>P28 Marco Niekampf</b>	<b>P09 Peter Funch</b>	<b>P13 Gideon Haug</b>	<b>P07 Isabell Dittmann</b>
<b>P12 Fenja Haug</b>	<b>P01 Nitzan Alon</b>	<b>P31 Mario Schädel</b>	<b>P40 Berit Zemann</b>
<b>P23 Sofia Lucio Garcia</b>	<b>P32 Johanna Seegel</b>	<b>P38 Karol Walach</b>	<b>P20 Zonglai Liang</b>

17<sup>00</sup> **Poster Session**  **Me**  


# Thursday

 **Biology Building, Djerassi-Platz 1, 1030 Vienna**


09<sup>00</sup> **Plenary**  **LH1**  
**Shannon B. Olsson**  
The chemical ecology of invertebrates in the Anthropocene

## 10<sup>00</sup> Coffee & Break

FuMo > LH1		Neuro > LH2	
<b>Kostya Kornev</b> Insect antennae: how morphology controls movement	<b>KEYNOTE</b> <b>Georg Brenneis</b> When external morphology is not enough: the neuroanatomy of sea spiders illuminates in-group relationships and informs current debates on chelicerate evolution	<b>* Nicole Schröter</b> A comparison of the functional morphology of the reproductive systems of three 'swimming crabs'	<b>Alexandra Kerbl</b> One of the smallest spiralian nervous systems reconstructed at ultrastructural level in the marine annelid <i>D. glyrociliatus</i>
<b>Carsten H.G. Müller</b> Feeling with a fingernail: Extero-mechanoreceptive sensilla in the tarsal claws of the wasp spider <i>A. bruennichi</i>	<b>Andrey Ostrovsky</b> Everything is not like in everyone: coenocytes and exaptations in cyclostome bryozoans	<b>Alexandre Lobo-da-Cunha</b> Microscopical morphology of the gill of <i>Aplysia depilans</i> (Mollusca, Eupolysiphobranchia)	<b>Max S. Farnworth</b> Evolutionary patterns in spatial orientation centres of Heliconiini butterfly brains
<b>Sanja Jasek</b> Desmosomal connectomics of somatic musculature in a marine annelid	<b>Marios Chatzigeorgiou</b> A functional dissection of the neuronal basis of settlement & metamorphosis in the ascidian <i>Ciona intestinalis</i>	<b>Brian K. Penney</b> Connective tissue patterns in dorid nudibranch mantle	<b>Aleksei A. Miroliubov</b> Parasitic barnacles: puppet masters & their mysterious interactions with the host nervous system
<b>Günter Purschke</b> Transition of metanephridial into protonephridial systems in annelid species with reduced coelom and blood vascular system	<b>* Ana Rato</b> Electrophysiological evidence that the osphradium is a chemosensory organ in bivalves		


## 12<sup>30</sup> Lunch & Break


12<sup>30</sup> **Group Photo**  **LH1**

 **Natural History Museum, Burgring 7, 1010 Vienna**

15<sup>00</sup> **Guided Tours**  



# Friday

 **Biology Building, Djerassi-Platz 1, 1030 Vienna**

09<sup>00</sup> **Plenary**  **LH1**  
**Gerhard Haszprunar**  
A silver age of morphology? An integrative point of view

## 10<sup>00</sup> Coffee & Break

Taxo > LH1	MoBa > LH2	DeepTi > SR1.5
<b>Franziska S. Bergmeier</b> Variety is the spice of life: Morphological diversity of digestive systems related to different food sources in Solenogastres (Mollusca, Aplousobranchia)	<b>Laurent Formery</b> A new model to relate echinoderm pentaradial symmetry with the ancestral bilateral symmetry	<b>Casey W. Dunn</b> Complex morphological traits don't have simple evolutionary histories
<b>* Sophie Greistorfer</b> Luminescence as defence - A study on the glowing mucus and the underlying gland system of <i>Lalia neritoides</i> (Gastropoda)	<b>Allan M. Carrillo-Baltodano</b> Ancestral synergy of TGF-beta and MAPK during dorsal-ventral specification in Spiralia	<b>Ariel Chipman</b> Serial homology and segment identity in the arthropod head
<b>Julian Müller</b> Phylogenetic significance of the chaetal arrangement in Annelida	<b>* Paul Knabl</b> Developmental roles of BMP signaling in Cnidaria	<b>* Lorenzo Lustri</b> Stalked eyes and exopodial gills preserved in the oldest known (480 Ma) horseshoe crabs
<b>Brett Gonzalez</b> 'My eyes have seen you...'	<b>Katharina Stracke</b> Hox gene expression in juveniles of the nemertean <i>Lineus ruber</i>	<b>Brendon E. Boudinot</b> Running to success: Ant forelegs were uniquely modified during the Early Cretaceous
<b>* Laia Moreno-Martinez</b> Morphological and molecular analysis of Indo-Pacific <i>Syllis</i> annelids	<b>Ahmed J. Saadi</b> Phylogenomics reveals deep relationships and diversification within phylactolaemate bryozoans	<b>* Christine Kiesmüller</b> The raptorial appendages of adult praying mantises and predatory lacewings 100 million years ago and today
<b>Paula Moreno-Martín</b> Integrative taxonomy to study syllid annelids in Bermuda	<b>Tim Wollesen</b> Molluscan cell types shed light on the evolution of a complex bilaterian body plan	<b>Carolin Haug</b> Think big - physogastry in 100-million-year-old lacewing larvae
<b>Nadezhda Rimsakaya-Korsakova</b> Neurogenesis in the frenulate <i>Siboglinum fiordicum</i> (Siboglinidae, Annelida)	<b>Andreas Hejnol</b> The evolution of blood and haemolymph cells from a penis worm perspective	<b>Marie K. Hörnig</b> Reproductive strategies within insects - hints for evolutionary reconstructions based on fossils
<b>* Mildred J. Johnson</b> Comparing the morphological characteristics of bryozoans in the genus <i>Immergentia</i>	<b>Elisabeth Zieger</b> How to analyze the evolution of gene co-expression across animal development?	<b>Lukáš Laibl</b> Drifting with trilobites: the invasion of trilobite early post-embryonic stages to the pelagic realm

 **Biology Building, Djerassi-Platz 1, 1030 Vienna**

  
Maps & floor plan 


## 12<sup>30</sup> Lunch & Break

12<sup>30</sup> **ZEISS WORKSHOP**   **SR1.7**

Taxo > LH1	Neuro > LH2
<b>* Nickellaus G. Roberts</b> Entoprocta, small animals with big implications for Lophotrochozoa	<b>* Shubham Gautam</b> Evolution of odorant receptor repertoire size & tempo across major Hymenopteran lineages
<b>* Julian Bibermeir</b> <i>Plumatella fruticosa</i> , the non-plumatellid freshwater bryozoan? A morphological approach	<b>* Mohammad Belal Talukder</b> Chemosensing in Spiders: an ultrastructural perspective
<b>* Sebastian Hellmuth Decker</b> Unravelling systematics and phylogenetic position of the boring bryozoan family Penetrantiidae	<b>* Clara Lemaire</b> Mechanical feedback by a specialized comb during fibre production in spiders

## 14<sup>45</sup> Coffee & Break

15 <sup>15</sup> <b>Presidential Talk</b>  <b>LH1</b> <b>Natalia M. Biserova</b> Morpho-functional evolution of the tapeworms
16 <sup>00</sup> <b>Board Meeting</b>
17 <sup>15</sup> <b>General Assembly Awards</b> Next Meeting Closing Remarks

 **Das Schreiberhaus, Rathstraße 54, 1190 Vienna**

20<sup>00</sup> **Conference Dinner**  
