

2015 CILIATE MOLECULAR BIOLOGY

July 10 – 16, 2015

**University of Camerino
Ducal Palace, Camerino, Italy**

CO-ORGANIZERS:

Cristina Miceli

University of Camerino, Italy

Chair COST Action BM1102: *Ciliates as model systems to study genome evolution, mechanisms of non-Mendelian inheritance, and their roles in environmental adaptation*

James Forney

Purdue University, USA

Linda Sperling

CNRS, France

Sean Taverna

Johns Hopkins University, USA

ORGANIZED WITH THE SUPPORT OF:

COST Action BM1102: *Ciliates as model systems to study genome evolution, mechanisms of non-Mendelian inheritance, and their roles in environmental adaptation*

Genome Dynamics Paramecium and Evolution (GDRE)

National Science Foundation

VWR International (scientific supply company)

Dr. Douglas and Mr. Andrew Mersman

SCIENTIFIC COMMITTEE:

Cristina Miceli

University of Camerino, Italy

James Forney

Purdue University, USA

Linda Sperling

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LOCAL ORGANIZING COMMITTEE:

Claudio Alimenti	-	University of Camerino
Patrizia Ballarini	-	University of Camerino
Federico Buonanno	-	University of Macerata
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Hua Yao	-	University of Camerino
Press Office	-	University of Camerino

Scientific Programme

Friday, July 10, 2015		
		Registration and Dinner at Ducal Palace (19:30-22:00)
Saturday, July 11, 2015		
	9:00	Welcome address
Session 1:	9:20-12:30	Genomes and Systems Biology
		Session Chair: Estienne Swart, Institute of Cell Biology, University of Bern, Switzerland
	25 min	Bob Coyne, J. Craig Venter Institute, Rockville MD, USA <i>Whole-Genome Characterization of Eliminated Sequences in Tetrahymena thermophila</i>
	25 min	Wei Miao, Inst. of Hydrobiology, Chinese Academy of Sciences, China <i>Comparative Genomics reveals insights into Genome Divergence and Speciation of Tetrahymena</i>
	25 min	Laura Landweber, Princeton Univ., NJ, USA <i>Comparative Genomics in the Oxytricha lineage</i>
	10:45-11:15	Coffee break
	25 min	Marcella Cervantes, Department of Molecular and Cellular Medicine, Texas A&M Health Science Center, TX, USA <i>RNAseq analysis of the Tetrahymena cell cycle</i>
	25 min	Cyril Denby Wilkes, Institute of Integrative Biology of the Cell (I2BC), UMR 9198 CNRS CEA Universite Paris-Sud, Gif-sur-Yvette, France <i>Methods for the study of Paramecium Internal Eliminated Sequences.</i>
	25 min	Diamantis Sellis, Universite Lyon 1, CNRS, Villeurbanne, France <i>Evolution of Internal Eliminated Sequences (IES) in Paramecium</i>
	12:30 – 13:30	Lunch at Ducal Palace
Poster Session 1:	14:30–16:15	
	16:15-16:45	Snack break
Session 2:	16:45-20:20	Evolution and Adaptation
		Session Chair: Laura Katz, Smith College, MA, USA
	25 min	Laura Katz, Smith College, MA, USA <i>Evolution of germline/soma distinctions within ciliates and across the (eukaryotic) tree of life.</i>
	25min	Michael Lynch, Indiana University at Bloomington, IN, USA <i>Whole-genome duplication and diversification in the Paramecium 3urelia complex.</i>
	25min	Estienne Swart, Institute of Cell Biology, University of Bern, Switzerland <i>Genetic code evolution in light of ambiguous, crammed genetic codes</i>
	25 min	Alexey Potekhin, Faculty of Biology, St Petersburg State University, St Petersburg, Russia <i>Mating, molecules, and morphology, or how to count the number of species in the Paramecium 3urelia complex?</i>
	18:25-18:45	Coffee break
	20 min	Denis Lynn, Department of Integrative Biology, University of

		Guelph, Guelph, ON, CANADA <i>Phylogenomic analysis of Halteria grandinella strongly supports its affinities to the hypotrichs</i>
	20 min	Clifford Brunk, College of Life Sciences, UCLA, CA, USA <i>Concerted Evolution of Tetrahymena Genes</i>
	20 min	Sebastian Tarcz, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Krakow, Poland <i>Global population sampling reveals a low genetic variability of three loci in Paramecium biaurelia</i>
	20 min	Xyrus Maurer-Alcala, University of Massachusetts, Smith College, MA, USA <i>Molecular evolution and Genome Organization in Chilodonella uncinata</i>
	20:30	Dinner at Hotel I Duchi (shuttle bus to Villa Fornari)
Sunday, July 12, 2015		
Session 3:	9:00- 12:30	Programmed DNA Rearrangements
		Session Chair: Marcella Cervantes, Department of Molecular and Cellular Medicine, Texas A&M Health Science Center, TX, USA
	35min	Richard Davis, University of Colorado, CO, USA <i>DNA elimination in nematodes</i>
	(joint talk) 30min	Eduardo Orias University of California Santa Barbara, CA, USA and Piroska Huvos, Southern Illinois University, IL, USA <i>Chromosome breakage sequence evolution in the Tetrahymenine genome</i> <i>The Locations but not the Content of Chromosome Breakage Site-Associated Sequences are Conserved among four Tetrahymena Species in the Borealis Clade</i>
	25min	Eric Meyer, Ecole Normale Supérieure, CNRS, Paris, France <i>mtF and mtF-like proteins: the genetic side of adaptation to precise transposon elimination in Paramecium?</i>
	20min	Talya Yerlici, Department of Molecular Biology, Princeton University, NJ, USA <i>Double-stranded DNA break repair during genomic rearrangement in the ciliate Oxytricha trifallax</i>
	10:50-11:15	Coffee break
	25min	Douglas Chalker, Washington University at St. Louis, USA <i>The novel G-quadruplex binding protein, Lia3, regulates the boundaries of genome-wide DNA elimination events in Tetrahymena thermophila</i>
	25 min	Meng-Chao Yao, Academia Sinica, Taiwan <i>A possible role for the second domesticated piggyBac transposase TPB1 in Tetrahymena programmed DNA deletion</i>
	25min	Mireille Betermier, Ctr. de Génétique Moléculaire CNRS, Gif Sur Yvette, France <i>Domesticated piggyBac transposases in Paramecium: one for all and all for one</i>
	12:30 – 13:30	Lunch at Ducal Palace
Poster Session 2:	14:30–16:15	
	16:15-16:45	Snack break
Session 4:	16:45-20:00	Chromatin and Chromosomes
		Session Chair: Rachel Howard-Till, Department of Chromosome Biology, University of Vienna, Vienna Biocenter (VBC), Austria
	25 min	Josef Loidl, Univ. of Vienna, Austria <i>Tetrahymena meiosis has undergone evolutionary simplification</i>

	25min	Sandra Duhaucourt, Inst. Jacques Monod, France <i>From the centromeres to the germline genomes of P. aurelia species</i>
	25 min	Jeff Kapler, Texas A&M Health Science Center, USA <i>Activation of unconventional DNA replication programs under limiting ORC conditions in Tetrahymena.</i>
	18:00- 18:30	Coffee break
	20 min	Wei Wang, Institute of Biotechnology, Shanxi University, Taiyuan, China <i>Characterization of novel chromodomain proteins involved in Tetrahymena genome rearrangement and repair</i>
	25 min	Rachel Howard-Till, Department of Chromosome Biology, University of Vienna, Vienna Biocenter (VBC) <i>The MIC and MAC require multiple condensins for chromosome segregation and nuclear development in Tetrahymena thermophila</i>
	25 min	Ronald Pearlman, Department of Biology, York University, Toronto M3J 1P3, Canada; <i>Functional Analysis and Unique Insights of Chromatin Remodeling in Tetrahymena thermophila: An Affinity Purification-Mass Spectrometry Analysis</i>
	20 min	Takaiko Akematsu, Department of Chromosome Biology, University of Vienna, Vienna, AUSTRIA <i>A novel formation of gammaH2AX in postmeiotic micronuclei and its relation to nuclear reprogramming in Tetrahymena thermophila</i>
	20:15	Dinner at Restaurant Rocca del Borgia (shuttle bus to Villa Fornari)
<u>Monday, July 13, 2015</u>		
Session 5:	9:00-12.30	RNA, Histones and Epigenetics
		Session Chair: Sean Taverna, Department of Pharmacology and Molecular Sciences, The Johns Hopkins University School of Medicine, Baltimore, MD, USA
	25 min	Yifan Liu, Department of Pathology, University of Michigan, Ann Arbor, MI, USA <i>Distinct nucleosome distribution patterns in two structurally and functionally differentiated nuclei of a unicellular eukaryote</i>
	25 min	Sean Taverna Department of Pharmacology and Molecular Sciences, The Johns Hopkins University School of Medicine, Baltimore, MD, USA <i>Methylation of histone H3K23 blocks DNA damage during meiosis</i>
	25 min	Shan Gao, Institute of Evolution & Marine Biodiversity, Ocean University of China, Qingdao, China <i>A nuclear RNAi-dependent Polycomb repression pathway is required for transcriptional silencing of transposable elements</i>
	10:15-10:45	Coffee break
	25 min	Jacek Nowak, Institute of Biochemistry and Biophysics, Poland <i>Developmentally induced elongation factor Spt5 influences non-coding transcription program in P. tetraurelia.</i>
	25 min	Iwona Rzeszutek, Institute of Cell Biology, University of Bern, Switzerland Graduate School for Cellular and Biomedical Sciences, University of Bern, Bern, Switzerland. <i>Euplotes crassus – new model for investigating development-specific small RNA - mediated genome reorganization</i>

	25 min	Hans Lipps, Universitat Witten/Herdecke, Germany <i>Farewell Stylonychia – what we learned from this ciliate</i>
	12:30 – 13:30	Lunch and Group photo at Ducal Palace
Workshop 1: Ciliates in the classroom followed by undergraduate talks		13:30 – 16:15
		Chair: Emily Wiley, Claremont McKenna College, CA, USA
		Lev Tsypin, University of Chicago, USA <i>Coregulation Data Harvester for Tetrahymena thermophila: an automated approach to predicting gene functions from transcriptomic and genomic databases</i>
		Vita Jaspan, Washington University in St. Louis, USA <i>A novel Lia3-like protein LTL1 controls boundaries of IES excision in Tetrahymena thermophila</i>
		Rashidul Islam, University of Camerino, Italy <i>The DDE transposase family in the Antarctic ciliate Euplotes focardii</i>
		Karissa Munoz, Claremont McKenna College, USA <i>Regulation of Histone H3 Proteolysis in Tetrahymena</i>
		Joshua Lindsley, Texas A&M Health Science Center, USA <i>Potential Cyclin Control of Nuclear-specific Phase Changes</i>
		Elizabeth MacColl, Hamilton College, NY, USA <i>Fish parasite Ichthyophthirius multifiliis: molecular genetic diversity and conjugation</i>
		Chiara Pasqualetti, University of Pisa, Italy <i>Osmotic stress affects the horizontal transfer of bacterial Paramecium endosymbionts</i>
		Alyson Burtch, Ryerson University, Canada <i>Cloning and Expression of Tetrahymena thermophila Interactive Bromodomain 1 (IBD1)</i>
	16:15-16:45	Snack break
Session 6:	16:45-20:00	RNA Biology and Epigenetics II
		Session Chair: Eric Meyer, Ecole Normale Supérieure, Paris, France
	25 min	Kazufumi Mochizuki, Univ. of Vienna, Austria <i>Small RNA-mediated genome-wide trans-recognition network in Tetrahymena DNA elimination</i>
	35 min	Mariusz Nowacki and Dominique Furrer, Inst. of Cell Biology, University of Bern, Bern, Switzerland <i>Different classes of small RNAs and Piwi proteins are required for programmed DNA elimination in Paramecium</i>
	25 min	Simran Bhullar, Institute de Biologie l'Ecole Normale Supérieure, Paris, France <i>Identification of genes involved in the scnRNA pathway using mutagenesis as an approach</i>
	18:10-18:40	Coffee break
	25 min	Guillaume Pellerin, Institute de Biologie l'Ecole Normale Supérieure, Paris, France <i>Paternal scnRNAs can efficiently program genome rearrangements during development of Paramecium tetraurelia heterozygotes</i>
	25 min	Natalia Sawka, Institute of Systematics and Evolution of Animals Polish Academy of Sciences, Krakow, Poland <i>Searching for genes involved in mating type determination in selected species of Paramecium aurelia complex</i>
	25 min	Thomas Berendonk, Department of Hydrosociences, Dresden, Germany

		<i>Low local genetic diversity in P. caudatum and experimental evolution of heat-stress adaptation in a host-symbiont association in P. tetraurelia.</i>
	20:15	Dinner at Hotel I Duchi (shuttle bus to Villa Fornari)
Tuesday, July 14, 2015		
Session 7:	9:00- 10:30	Basal bodies and Morphogenesis
		Session Chair: Joe Frankel Department of Biology University of Iowa, IA, USA
	25min	Helena Soares, Universidade de Lisboa, Portugal <i>Mob1: at the crossroad between morphogenesis, cytokinesis and cell proliferation control in unicellular organisms</i>
	25min	Anne Aubusson Fleury, CGM, CNRS, Gif Sur Yvette, France <i>From basal body biogenesis to cell morphogenesis : the Paramecium model</i>
	20 min	Brian Bayless, Department of Cell and Developmental Biology, University of Colorado School of Medicine, Aurora, CO, USA <i>Asymmetric positioning of basal body stability factors</i>
	20min	Ewa Joachimiak, Laboratory of Cell Movement Physiology, Nencki Institute of Experimental Biology, Warsaw, Poland <i>Delta-tubulin is required for the proper spatial organization of the basal body appendages in a ciliate Tetrahymena thermophila</i>
	10:30-10.50	Coffee break
Session 8:	10:50-12:30	Cilia and Motility
		Session Chair: Sandra Pucciarelli, School of Biosciences and Veterinary Medicine, University of Camerino
	25min	Jacek Gaertig, Univ. of Georgia at Athens, USA <i>Isolation of Suppressors of Gain of Function of the Cilia Length Regulation Kinase, LF4 in Tetrahymena</i>
	25 min	Dorota Wloga, Nencki Institute of Experimental Biology, Poland <i>Ciliary proteins: discovery of new bricks in long known structure.</i>
	30 min	Michael Taschner, Max Planck Institute of Biochemistry <i>Characterization of a novel subcomplex within the Intraflagellar Transport (IFT) B complex: Implications for tubulin transport and IFT complex oligomerization</i>
	20min	Sandra Pucciarelli, School of Biosciences and Veterinary Medicine, University of Camerino <i>Identification of a 'Ciliary Localization Signal' in the axonemal beta-tubulin of Tetrahymena thermophila</i>
	12:30 – 13:30	Lunch at Ducal Palace
COST BM1102 Management Committee Meeting		13:30 – 15:00
Excursion to Assisi including dinner at Restaurant Da Angelo, Assisi		14:30 – 22:30
Wednesday, July 15, 2015		
Session 9:	9:00-12:30	Membrane Trafficking and Signaling
		Session Chair: Piero Luporini, Laboratory of Eukaryotic Microbiology, School of Biosciences and Veterinary Medicine, University of Camerino, Italy
	25 min	Aaron Turkewitz, University of Chicago, Chicago, IL, USA <i>Mucocyst maturation in Tetrahymena</i>
	20min	Jim Forney, Department of Biochemistry, Purdue University, IN, USA <i>Effects of SUMO pathway disruption in Tetrahymena thermophila</i>

	25min	Lydia Bright, Indiana University, Bloomington, IN, USA <i>Ongoing evolutionary plasticity in the Rab GTPase gene family is revealed by genomic and functional studies in multiple Paramecium species</i>
	20 min	Alejandro Nusblat, Instituto de Nanobiotecnología, Nanobiotec, Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires, Buenos Aires, Argentina <i>Genome analysis of sphingolipid metabolism related genes in Tetrahymena thermophila: Identification of the Fatty Acid 2 Hydroxylase gene by somatic knockout</i>
	10.30-11:00	Coffee break
	25 min	George Leondaritis, Department of Pharmacology, Medical School, University of Ioannina, Greece <i>Network analysis of phosphoinositide kinases and phosphatases in the ciliate Tetrahymena</i>
	25 min	Helmut Plattner, Department of Biology, University of Konstanz, Germany <i>Calcium signaling in Paramecium cells and beyond. Primeval but not primitive signaling at the roots of eukaryotes</i>
	20min	Adriana Vallesi, Laboratory of Eukaryotic Microbiology, School of Biosciences and Veterinary Medicine, University of Camerino, Italy <i>Structural characterization of the protein pheromones from a psychrophilic and early branching Euplotes species, E. petzi</i>
	20 min	Jennifer Pinello, Cornell University, Ithaca, NY, USA <i>Quantifying Cell-Cell Fusion after Tetrahymena Conjugation using flow cytometry</i>
	12:30 – 13:30	Lunch at Ducal Palace
Workshop 2: Fostering community resources and collaborations Chair: Doug Chalker, Washington University at St. Louis, MO, USA Contribution by Ayça Fulya Üstüntanır and Muhittin Arslanyolu, Anadolu University, Eskisehir-Turkey		14:30 – 16:15
	16:15-16:45	Snack break
Session 10:	16:45-20:00	Symbiosis and Environmental Stress
		Session Chairs: Giulio Petroni University of Pisa, Italy and Elena Sabaneyeva Saint Petersburg State University, Russia
	25 min	Giulio Petroni University of Pisa, Italy and Elena Sabaneyeva Saint Petersburg State University, Russia, <i>Ciliates as natural reservoir of potentially pathogenic bacteria: state of the art after a four year networking project</i>
	20 min	Michele Castelli, Department of Biology, University of Pisa, Italy <i>Sequencing the genome of bacterial endosymbionts in ciliates: experimental challenges and solutions</i>
	20 min	Erhan Aslan, Graduate School of Science, Molecular Biology Program; Anadolu University, Turkey <i>Comparative in-silico analysis of autophagy-related genes (ATG) in ciliates</i>
	20 min	Federico Buonanno, Laboratory of Protistology and Biology Education, University of Macerata, Italy <i>The non-proteic extrusive secondary metabolites in ciliated protists</i>
	18:10-18:40	Coffee break
	20 min	Ravi Toteja, Acharya Narendra Dev College, University of Delhi, Delhi, India

		<i>Metallothionein, TmMCd, induction in presence of cadmium in the spirotrich ciliate, Tetmemena n. sp.</i>
	20 min	Seema Makhija, Acharya Narendra Dev College, University of Delhi, Delhi, India <i>Characterization of Cadmium induced hsp70 gene in Tetmemena n. sp. and its use as molecular marker for heavy metal toxicity</i>
	(joint talk) 25 min	Diana Ferro, Institute for Evolution and Biodiversity, Westfälische Wilhelms-Universität, Münster, Germany and Kesava Priyan Ramasamy, School of Bioscience and Veterinary Medicine, University of Camerino, Italy <i>Cu, Zn superoxide dismutases from Tetrahymena thermophila: molecular evolution and gene expression of the first line of antioxidant defenses.</i> <i>Characterisation of the superoxide dismutase (SOD) family in the marine Antarctic ciliate Euplotes focardii</i>
	20 min	Açelya Kapkaç Akdamar, Graduate School of Sciences, Biology Program, Anadolu University, Eskişehir, Turkey <i>A xenobiotic CDNB (1-chloro-2,4-dinitrobenzene) substrate specific glutathione-S-transferase targeted genes in Tetrahymena thermophila; GST-Mu 19 and GST-Mu 34</i>
	20:15	Social Dinner at Relais Villa Fornari
Thursday, July 16, 2015		
Poster Session 3:		9:00–10:30
Poster Awards * Concluding Remarks		10:30–11:30
	12:00	Departure with box lunch or lunch served at Hotel I Duchi

* Three prizes will be awarded to the best posters presented by students and postdocs.

Poster Session

- 1. Cohesin SUMOylation in *Tetrahymena thermophila* Meiosis**
Emine Ali, Josef Loidl, Rachel Howard-Till
- 2. Ciliary transition zone: the sequential assembly of its components parallels its dual role in basal body anchoring and ciliary function**
Aubusson-Fleury A., Lemullois M., Bengueddach H., Abdallah S., Shi L., Cohen J., Jerka-Dziadosz M., and Koll F.
- 3. Cloning and Expression of *Tetrahymena thermophila* Interactive Bromodomain 1 (IBD1)**
Alyson Burtch, Alejandro Saettone, Jeffrey Fillingham
- 4. Investigating the developmental role of a putative dsRNA interacting protein in *Tetrahymena***
Ju-Lan Chao and Meng-Chao Yao
- 5. Recombinant production of human growth hormone (hGH) in *Tetrahymena thermophila***
Serkan Dereli and Muhittin Arslanyolu
- 6. Immunofluorescent observation of histone H4 acetylation in micronuclei during the early stages of conjugation in *Tetrahymena thermophila***
Yasuhiro Fukuda, Takahiko Akematsu, Chika Tada and Yutaka Nakai
- 7. Morphology, morphogenesis and molecular phylogeny of two new species of class spirotrichea collected from Sanjay Lake in Delhi, India**
Renu Gupta, Jeeva Susan Abraham, S. Sripoorna, Ravi Toteja, and Seema Makhija
- 8. Characterization of Dicer-like proteins in *Paramecium***
Cristina Hoehener, Mariusz Nowacki
- 9. A probable micronuclear inversion in *T. ellioti***
P. E. Huvos, E. Orias and E. P. Hamilton
- 10. The DDE transposase family in the Antarctic ciliate *Euplotes focardii***
Rashidul Islam, Adeel Manaf, Zunuer Haliqiguli, Kesava Priyan Ramasamy, Sandra Pucciarelli, Cristina Miceli
- 11. A novel Lia3-like protein LTL1 controls boundaries of IES excision in *Tetrahymena thermophila***
Vita N. Jaspan, Christine Carle and Douglas L. Chalker
- 12. The transition zone of cilia in *Paramecium* and *Tetrahymena* contains nucleoporins but no septins.**
Jerka-Dziadosz M., Nowak J., Joachimiak E., Aubusson-Fleury A., Włoga D.
- 13. A xenobiotic CDNB (1-chloro-2,4-dinitrobenzene) substrate specific glutathione -S-transferase targeted genes in *Tetrahymena thermophila*; GST-Mu 19 and GST-Mu 34**
Kapkaç H.A, Arslanyolu M.
- 14. Mating pheromone gamone 1 plays an important role in speciation of the ciliate *Blepharisma***
Mayumi Kobayashi, Yui Nishihara, Mamiko Miura, Mari Takusagawa, Mayumi Sugiura, Terue Harumoto

15. **Genome integration of the therapeutic human interferon beta (hIFN- β) for recombinant protein production in *Tetrahymena thermophila***
Murat Kaya, Muhittin Arslanyolu
16. **Newly identified ATP dependent DNA ligase subfamily II specifically distributed in eukaryotic invertebrate: TtLigII as a first member from *Tetrahymena thermophila***
Nuçin Küçüköğlü and Muhittin Arslanyolu
17. **Ciliate diversity and behavioural observations from the chemoautotrophic cave ecosystem of Frasassi, (Marche region, Italy).**
Santosh Kumar, Daizy Bharti, Federico Buonanno, Alessandro Montanari, Claudio Ortenzi, Komal Kamra and Antonietta La Terza
18. **Boundary determination in programmed DNA deletion in *Tetrahymena thermophila***
Chih-Yi Lin, Douglas Chalker and Meng-Chao Yao
19. **Potential Cyclin Control of Nuclear-specific Phase Changes**
Lindsley J., Xiong J., Cervantes M.D., Miao W., Kapler G.
20. **Fish parasite *Ichthyophthirius multifiliis*: molecular genetic diversity and conjugation**
Elisabeth MacColl
21. **Regulation of Histone H3 Proteolysis in *Tetrahymena***
Karissa Muñoz, Kaylene Au, Libby Manucci, Robyn Sherman and Emily Wiley
22. **Biogenesis and function of 27 macRNAs during macronuclear development in *Oxytricha trifallax***
Zachary T. Neeb, Sol Katzman, Daniel Hogan, Alan M. Zahler
23. **Heterologous expression of *Cryptosporidium parvum* vaccine candidate GP60 in *Tetrahymena thermophila*.**
Eugenia Elguero, Mariela Tomazic, Guadalupe Montes, Carolina Chain, Clara Nudel, Leonhard Schnittger, Alejandro Nusblat.
24. **Osmotic stress affects the horizontal transfer of bacterial *Paramecium* endosymbionts**
Chiara Pasqualetti, Franziska Szokoli, Giulio Petroni, Martina Schrallhammer
25. **Using RNA-seq to test the effect of silver nanoparticles on *Tetrahymena thermophila***
A. Piersanti, K. Juganson, W. Wei, J. Zhang, Z. Zhao, S. Pucciarelli, C. Miceli and W. Miao
26. **Can *Tetrahymena thermophila* undergo autogamy?**
Jennifer F. Pinello, Donna Cassidy-Hanley, Theodore G. Clark
27. ***Paramecium jenningsi* (Diller & Earl 1958) intra-specific structure, position in *Paramecium* subgenus**
Ewa Przyboś, Sebastian Tarcz
28. **Isolation and characterization of bacterial strains from a consortium associated to the Antarctic ciliate *Euplotes focardii***
Kesava Priyan Ramasamy, Sandra Pucciarelli, Patrizia Ballarini, Simone Menin, Martina Schrallhammer, Cristina Miceli
29. **Kinome analysis in *Stentor coeruleus***
Sarah B. Reiff, Pranidhi Sood, J. Graham Ruby, Mark M. Slabodnick, Joseph L. DeRisi, and Wallace F. Marshall.

- 30. *Euplotes crassus*: new model for investigating development-specific small RNA-mediated genome reorganization.**
Rzeszutek I, Swart EC, Klobutcher LA, Nowacki M
- 31. A cryptic epibiont of *Paramecium aurelia* from Cyprus.**
Elena Sabaneyeva, Olivia Lanzoni, Natalia Lebedeva, Konstantin Benken, Alexei Potekhin, Giulio Petroni
- 32. Identification of *Tetrahymena* SWI/SNF**
Alejandro Saettone, Alyson W. Burtch, Jyoti Garg, Jean-Philippe Lambert, Anne-Claude Gingras, Ronald E. Pearlman and Jeffrey Fillingham
- 33. *Holospora*-like bacterial endosymbionts in *Paramecium* spp. From India: the Southern record of *Holospora* sp. With consideration of its biogeographic distribution**
Valentina Serra, Sergei I. Fokin, Charan Kumar Basuri, Venkata Mahesh Nitla, Michele Castelli, BV Sandeep, Giulio Petroni
- 34. SDCP, a novel *Paramecium* protein involved in macronuclear development during autogamy.**
Singh Aditi, Swart Estienne C., Gisler Silvan, Nowacki Marius
- 35. Mating type expression during sexual maturation in *Blepharisma stoltei***
Mayumi Sugiura and Terue Harumoto
- 36. Strong Conservation of Chromosome Breakage Among *Tetrahymena* Species.**
Nicole Szczepanik, Brian Pinkins, Courtney Taylor, undergraduates and P. Huvos,
- 37. “*Candidatus* Bealeia paramacronuclearis” a novel *Paramecium* endosymbiont belonging to “basal” Rickettsiales (*Alphaproteobacteria*)**
Franziska Szokolil, Michele Castelli, Elena Sabaneyeva, Martina Schrollhammer, Sascha Krenk, Tom Doak, Thomas U. Berendonk, Giulio Petroni
- 38. A Spt16 homologue is an essential component of programmed genome rearrangements in *P. tetraurelia***
Augustin de Vanssay, Amandine Touzeau, Olivier Arnaiz, Andrea Frapporti, Sandra Duharcourt
- 39. *Paramecium tetraurelia* basal body unit isolation for Cryo-electron tomography studies**
Sylvain Tréput, Michel Lemullois, Paul Guichard, France Koll, Anne Aubusson Fleury, Janine Beisson, Jean Cohen, Sergio Marco, Anne-Marie Tassin
- 40. Coregulation Data Harvester for *Tetrahymena thermophila*: an automated approach to predicting gene functions from transcriptomic and genomic databases**
Lev M. Tsy-pin and Aaron P. Turkewitz
- 41. Construction and stable transformation of *Tetrahymena* macronuclear artificial chromosome (TtAC) for a large gene/DNA cloning and expression system**
Ayça Fulya Üstüntanır and Muhittin Arslanyolu
- 42. Heavy metals and antioxidant responses in the soil ciliate *Cyrtocapsa tetraocirrata*: a preliminary analysis**
Govindhasamay R Varatharajan, Santosh Kumar, Daizy Bharti and Antonietta La Terza
- 43. Phosphorylation of Hhp1 and roles in chromatin targeting**
Emily Wiley, Katerina Yale, Monica Neumann, Alan Tackett, and C. David Allis
- 44. Dinoflagellates evolved from a mis-happened event of a life-cycle stage of early ciliates?**
Joseph T.Y. Wong and Alvin C.M. Kwok

45. Dynamic distributions of long double-stranded RNA in *Tetrahymena* during nuclear development and genome rearrangements

Tai-Ting Woo, Ju-Lan Chao and Meng-Chao Yao

46. Effect of PiggyMac silencing on global gene expression in *Paramecium*

Rafal Woycicki, Simran Buhllar, Estienne C. Swart, Mariusz Nowacki

47. Characterization of two putative anti-freeze proteins from the Antarctic ciliate *Euplotes focardii*

Hua Yao, Marco Mangiagalli, Stefania Brocca, Raziye Dolkun, Sandra Pucciarelli, Ermenegilda Parrilli, Pietro Tedesco, Donatella de Pascale, Cristina Miceli, Marina Lotti

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