

## PROGRAM

### 25<sup>th</sup> International Colloquium on Animal Cytogenetics and Genomics (25<sup>th</sup>ICACG 2024)

Naples, June 26-29, 2024, Italy

#### Wednesday, June 26<sup>th</sup>

14.00-16.30: Registration and poster set up

16.30-16.45: Opening ceremony:

V. Peretti, Chairman

L. Iannuzzi, Co-chairman

A. Anastasio, Director of the DMVPA

A. Scaloni, Director of the CNR-ISPAAM

S. D'Auria, Director of the Bio-Agri-Food Science Department, CNR

16.45-17.00: Dr. James (Jim) Womack obituary (*Dr. Penny Riggs*)

General Opening Session 1: Chairpersons: Salvatore Francesco, Pauciullo Alfredo

17.00-17.40: *Lecture 1:* Switonski Marek - **Cytogenetic diagnostics - from Giemsa staining to SNP microarray and NGS.**

17.40-18.20: *Lecture 2:* Ajmone-Marsan Paolo - **Bovine research: from Genomics to Epigenomics.**

18.20-19.00: *Lecture 3:* Drogemuller Cord - **Clinical Veterinary Genetics in the Age of Whole Genome Sequencing**

19.30: Welcome reception (*Royal Continental Hotel*)

#### Thursday, June 27<sup>th</sup>

9.00-10.30: *Session 2:* Cytogenetics and Genomics in Animal Diagnostics

Chairpersons: Pinton Alain, Bugno-Poniewierzka Monika

09.00-9.30: *Lecture 4:* Capitan Aurelien - **Detection and characterization of cytogenetic defects in cattle using large genotypic and phenotypic data sets generated for genomic evaluation.**

09.30-10.00: *Lecture 5:* Parma Pietro - **The impact of Bioinformatics in Animal Cytogenetics.**

10.00-10.15: Pistucci R, Parma P, Cimmino R, Neglia G, Iannuzzi A. **Sperm-FISH Analysis for Validating Sexed Italian Mediterranean River Buffalo (*Bubalus bubalis*) Semen**

10.15-10.30: Albarella S, Nowacka-Woszek J, Switonski M, Riccardi MG, D'Anza E, Bifulco G, Costanza D, Pugliano M, Ciotola F, Peretti V. **Monozygotic Origin of Three Cases of Female Dicephalic Buffalo and Bovine Calves.**

10.30-11.00: Coffee break and poster vision

11.00-13.40: *Session 3:* Advanced in Water Buffalo Genomics and Epigenomics

*Chairpersons:* Chillemi Giovanni, Castiglioni Bianca

- 11.00-11.30: **Lecture 6:** Williams John - **The water buffalo genome sequencing: history, gains and future perspectives.**
- 11.30-12.00: **Lecture 7:** Di Maggio F. / Toscano E. - **Whole genome of a male water buffalo, obtained by Nanopore Technology long-reads sequencing, generates high quality *de novo* assembly and provides first hints on Y chromosome.**
- 12.00-12.15: Milanese M, Pietrucci D, Picarone L, Vignali G, Cosenza G, Gomez M, Chillemi G - **Genomic structure of Mediterranean Buffalo breed: a variant analysis for a new dedicated SNP array.**
- 12.15-12.30: Albarella S, Pugliano M, D'Anza E, Cascone I, Matera R, Longobardi V, Galli T, Fichi G, Peretti V, Ciotola F - **Polymorphisms of MBL2 and LTF genes in Mediterranean Italian River Buffalo (*MIRB*) (*Bubalus bubalis*) and association with mastitis.**
- 12.30-12.45: Cascone I, López-Catalina A, Albarella S, Ciotola F, Cosenza G, Salzano A, Peretti V, González-Recio O. **Methylation study in mediterranean italian river buffalo (*Bubalus bubalis*): preliminary results.**
- 12.45-13.00: Fulgione A, Iovane V, Gentile A, Capparelli R - **TLR2 polymorphisms modelling and Italian Mediterranean water Buffalo brucellosis.**
- 13.00-13.15: Nunziato M, Di Maggio F, Sepe L, Toscano E, Boccia A, Cimmino R, Paolella G, Salvatore F - **Third-generation sequencing by nanopore technology of unrelated 22 male and 10 female water buffalo to search for haplotype differences by SNPs analyses.**
- 13.15-13.30: Iovane V, Fulgione A, Gentile A, Capparelli R - **In silico analysis to predict SNPs effects in Mediterranean water buffalo.**
- 13.30-13.50: Presentation of the Avantor - VWR International (*sponsor*)
- 13.50-14.50: Lunch and poster vision**
- 14.50-16.10 - Session 4: Comparative Cytogenetics and Genomics**  
**Chairperson:** Fedorov Anton, Adegá Filomena
- 14.50-15.20: **Lecture 8:** Chaves Raquel - **Satellite DNA and RNA: advances and challenges.**
- 15.20-15.35: Ekkeh H, Feuda R, Tomaszewska P, Kirtiklis L, Mustafa S, Li R, Chaves R, Adegá F, Schwarzacher T, Heslop-Harrison P. - **The nature and organization of repetitive DNA in the genome of goat, *Capra hircus*.**
- 15.35-15.50: Riggs PK – **In pursuit of high-resolution chromosome banding: brief review in memory of Mogens Ronne (6 November 1941- 29 March 2018).**
- 15.50-16.10: - Liang J, Rose N, Brusentsov II, Lukyanchikova V, Karagodin DA, Feng Y, Yurchenko AA, Sharakhov IV<sup>1</sup>, McBride CS, Sharakhova MV - **Chromosomal inversions and their potential impact on evolution of mosquito *Aedes aegypti*.**
- 16.10-16.30: Coffee break and poster vision**
- 16.30-17.45: Session 5: Mutagenesis and Biomonitoring using Cytogenetic and Genomic Tests**

*Chairpersons:* Riggs Penny, Deudukh Dmitriij

16.30-17.00: **Lecture 9:** Iannuzzi Alessandra - **Cytogenetic and Genomic Biomarkers: A Glimpse into the Latest Advances.**

17.00-17.15: Pauciullo A, Gaspa G, Genuardo V, Rossetti C, Perucatti A, Rastello L, Gerbelle M, Galli A, Guidou C, Trespeuch C, Gasco L, Renna M - **Effect of dietary *Hermetia illucens* oil on bovine genome stability: a sister chromatid exchange (SCE) study.**

17.15-17.30: Gonella A, Perucatti A, Pistucci R, Iannuzzi L, Peruffo A. **A screening methodology of the cell nuclei based on functional status of the chromatin in *ziphius cavirostris*.**

17.30-17.45: Pistucci R, Amato R, Iommelli P, Tudisco R, Infascelli F, Iannuzzi A, Sarubbi F. **Investigating the impact of short-term environmental stress on telomere length in goats.**

**17.45-19.00: Session 6: Cytogenetics and Genomics of Non-Mammalian Vertebrates**  
*Chairpersons:* Olmo Ettore, Ocalewicz Konrad

17.45-18.15: **Lecture 10:** Romeo Teresa - **Billfish in the Mediterranean sea: genetic and tagging approach to study large pelagic fish.**

18.15-18.30: Ocalewicz K, Panasiak L – **Telomere length dynamics and expression of telomerase transcriptase (TERT) gene in diploid and triploid rainbow trout (*Oncorhynchus mykiss*) females.**

18.30-18.45: Fedorov A, Krasikova A - **Oocyte nuclear RNA profiles along centromere and subtelomere regions of the telomere-to-telomere chicken genome assembly.**

18.45-19.00: Dedukh D, Kautzál O, Albrecht T, Ridl J, Schlebusch SA, Reifova R - **Mechanisms of Programmed DNA elimination in songbirds**

**Friday, June 28<sup>th</sup>**

**09.00-11.20: Session 7: Advanced in Animal Genomics and Epigenomics**  
*Chairpersons:* Paoletta Giovanni, Biffani Stefano

09.00-9.30: **Lecture 11:** Gonzalez-Recio Oscar - **Capturing additional genetic and epigenetic variance by third generation sequencing.**

9.30-10.00: **Lecture 12:** Di Croce Fernando - **Advancing Dairy Farming with Genomics: Improving Profit, Sustainability, and Cow Health.**

10.15-10.30: Krasikova A, Kulikova T, Schelkunov M, Makarova N, Fedotova A, Bergardt V, Maslova A, Fedorov A - **Hypertranscription on the lateral loops of chicken lampbrush chromosomes is aimed to produce maternal RNA for thousands of genes**

10.30-10.45: Zhou H - **Functional annotation of regulatory elements and its application on identification genetic variants associated with complex traits in farm animals**

10.45-11.00: Faraut T, Mary N, Valton AL, Barasc H, Calgaro A, Marraud C, Pinton A - **Illustration of a deep learning approach to identify key genomic sequence features of 3D genome organization.**

11.00-11.20: Presentation of the Avantor - VWR International (sponsor)

**11.20- 11.50-Coffee break and poster vision**

**11.50-13.20: Session 8: Cytogenetic and Genomic Characterization of Animal Biodiversity**  
*Chairpersons* Szczerbal Izabela, Krasokova Alla

11.50-12.20: *Lecture 13:* Terlizzi Antonio - **Invasive marine species: transforming a threat into a resource.**

12.20-12.35: D'Anza E, Pugliano M, Piscopo N, Cascone I, Rossetti A, Ciotola F, Peretti V, Albarella S - **Origin of the current wild boar population of Campania region (Italy) and SNPS identification in RelA gene.**

12.35-12.50: Pereira JC, Mestre VF, Castro F, Costa S, Escudeiro A, Barros P, Chaves R, Ray D, Cabral JA, Adega F - **The highly conserved karyotype of the *myotis* genus (*chiroptera, vespertilionidae*): what is making the difference?**

12.50-13.05: Di-Nizo CB, Suh A, Fischer L, Fischer D, Schwarzer J, Astrin JJ - **The importance of cell banking to species chromosome characterization and conservation.**

13.05-13.20: Pessoa GP, Di-Nizo CB, Senzaki BM, Pires CAF, Oliveira IS, Silva MJJ - **Cytogenetics on snakes (*serpentes: squamata*) in a phylogenetic context.**

**13.20-14.30: Lunch and poster vision**

**14.30-15.45: Poster vision** (at least one author's poster must be present in the poster section)

**15.45-16.00: Poster removal**

**16.00-18.00: Naples' Tour "Tunnel Borbonico" Via D. Morelli, 61 – c/o Morelli parking.**

**20.30: Conference Dinner: Restaurant Transatlantico, Via Luculliana, 15 (Borgo Marinaro)**

**Saturday, June 29<sup>th</sup>**

**9.00-10.15: Session 9: Cytogenetics and Genomics of Invertebrates**  
*Chairpersons:* Sharakhov Igor, Sharakhova Maria

09.00-09.30: *Lecture 14:* Gokhman Vladimir - **Comparative cytogenetics of the order Hymenoptera (Insecta).**

09.30-09.45: Sharakhov IV, Lukyanchikova V, Brusentsov I - **Dynamics of the 3d genome architecture in the malaria mosquito development.**

09.45-10.00: Pistucci R, Varlese R, Di Prisco G, Iannuzzi A. - **Telomere Length as biomarker of wellness in honey bees (*Apis mellifera*, L.).**

10.00-10.15: Nugnes F, Ascolese R, Carbone C, Miele F, Pica F, Bernardo U - **Oriental fruit fly invasion in southern italy: understanding genetic variability, spread and potential threats to agriculture**

**10.15-10.45: Coffee break**

**10.45-13.15: Session 10 - Poster presentation and discussion**

*Chairpersons:* Zhou Huaijun, Nicolae Ioana

10.45-12.45: brief presentation of 15 posters (*8 min each*)

12.45-13.15: General discussion on the topic's poster

13.15-13.30: **Poster awards** (five poster)

13.30-13.40: **Conclusions and next meeting 2026** (*Porto, Portugal, Raquel Chaves, Chairwoman*)

**13.40: Lunch**