

IAU Symposium 330

Organised by the Observatoire de la Côte d'Azur

Astrometry and Astrophysics in the Gaia sky

24 - 28 April 2017, Nice, France



LOC

P. de Laverny
(Chair, OCA)
M. Delbo
V. Hill
T. Lanz
F. Migonard
S. Rousset
M. Schultheis
L. Amen (CNES)

SOC

A. Recló-Blanco (Chair, OCA, France)
A. Brown (co-chair, The Netherlands)
T. Prusti (co-chair, ESA)
K. Cunha (Brazil)
G. De Silva (Australia)
G. Gilmore (UK)
N. Gouda (Japan)
S. Klioner (Germany)
T. Mishenina (Ukraine)
B. Reddy (India)
G. Tancredi (Uruguay)
P. Tanga (France)
D. Vokrouhlický (Czech Republic)
P. Whitelock (South Africa)
N. Zacharias (USA)
M. Zoccali (Chile)

Detailed program of the Symposium

Invited reviews : 25 + 5 min

Accepted oral contributions : 15 + 5 min

Monday 24/04	Tuesday 25/04	Wednesday 26/04	Thursday 27/04	Friday 28/04
The Gaia Sky	Stellar physics	Astrometry and fundamental physics	Galactic Archaeology	Stellar physics
Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
The Gaia Sky	Galactic Archaeology	Astrometry and fundamental physics	Galactic Archaeology	Galactic Archaeology
Lunch break	Lunch break	Lunch break	Lunch break	Lunch break
Astrometry and fundamental physics	Galactic Archaeology	Social program	Solar System and exoplanets	DR2 and Conclusions
Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
Astrometry and fundamental physics	Exoplanets and stars	Social program	Solar System and exoplanets	

Monday 24th

The Gaia Sky

Chair: A. Recio-Blanco

8:00 Registration

9:15 Welcome + Practical information

9:25 Opening by local representatives

9:40 Timo Prusti **The Gaia mission status - Invited review**

10:20 Jean Kovalevsky *Tribute to François Mignard's research*

10:40 **Coffee break** - *Poster viewing*

11:10 Anthony Brown **The Gaia sky : version 1.0 - Invited review**

11:50 Benjamin Massart *The Gaia-Airbus prespective*

12:10 Lennart Lindegren **The Tycho Gaia Astrometric Solution - Invited review**

12:40 Rosemary Wyse **Galactic surveys in the Gaia era - Invited review**

13:10 **Lunch break**

Astrometry and fundamental physics

Chair: S. Stewart

14:40 Norbert Zacharias **Astrometric surveys in the Gaia era - Invited review**

15:10 François Mignard *Analysis of Gaia DR1 against VLBI and optical QSO surveys*

15:30 Leonid Petrov *VLBI and Gaia - a new window to study physics of active galaxy nuclei*

15:50 Luis Quiroga-Nuñez *VLBI versus Optical Astrometry of evolved stars*

16:10 Eugène Magnier *Gaia DR1 + Pan-STARRS DR1 - Comparisons and Synergies*

16:30 **Coffee break** - *Poster viewing*

Monday 24th (cont.)

Astrometry and fundamental physics

Chair: S. Stewart

- 17:00** Rachael Beaton [The Carnegie-Chicago Hubble Program, A Population-II Distance Ladder](#)
- 17:20** Jean Souchay [The LQAC-4, last update of a the Large Quasar Astrometric Catalogue](#)
- 17:40** Christopher Jacobs [Tying multiple Radio Wavelength Celestial Frames to the Gaia Optical Frame](#)
- 18:00** Tobias Fritz [Using ground based data as precursor for Gaia for getting proper motions of satellites](#)
- 18:20** *End of session*
- 19:00** **Welcome reception at Villa Massena**



Tuesday 25th

Stellar Physics

Chair: A. Helmi

- 9:00** Corinne Charbonnel **Stellar evolution models in the Gaia sky - Invited review**
- 9:30** Simon Joyce *The white dwarf mass-radius relation with Gaia and HST*
- 9:50** Pier-Emmanuel Tremblay *White dwarfs in the Gaia era*
- 10:10** Carlo Felice Manara *Gaia view of low-mass star formation*
- 10:30** **Coffee break** - *Poster viewing*

Galactic Archaeology

Chair: A. Helmi

- 11:00** Angela Bragaglia **Stellar Clusters in the Gaia era - Invited review**
- 11:30** Eleonora Zari *Stellar content of the Orion OB association*
- 11:50** Alis Deason *The Clouds are breaking- tracing the Magellanic system with Gaia DR1 Miras*
- 12:10** Keith Hawkins *Red Clump Stars, Stellar Twins & Prospects of Chemical Cartography with Gaia*
- 12:30** Andrea Kunder *RAVE-TGAS and the impact on Galactic archeology*
- 12:50** Sara Rezaei Kh. *Can we detect Galactic spiral arms? 3D dust distribution in the MW with Gaia*
- 13:10** **Lunch break**

Tuesday 25th (cont.)

Galactic Archaeology

Chair: E. B. Reddy

- 14:40** Carlos Allende Prieto **Archeology of the Galactic disc and halo in the Gaia era - Invited review**
- 15:10** Michael Hayden *Age & chemodynamic structure of the solar vicinity with the AMBRE Project*
- 15:30** Coryn Bailer-Jones *Close stellar encounters with the Sun from TGAS*
- 15:50** Edouard Bernard *Quantifying the star formation history of the MW disk in the Solar neighborhood*
- 16:10** Diane Feuillet *Age - Abundance Trends of Individual Elementals with APOGEE*
- 16:30** **Coffee break** - *Poster viewing*

Exoplanets and Stars

Chair: E. B. Reddy

- 17:00** Nuno Santos **Characterisation of exoplanet hosting stars - Invited review**
- 17:30** Martin Groenewegen **Variable stars in the Gaia era - Invited review**
- 18:00** Giampaolo Piotto **The Gaia-PLATO synergy - Invited review**
- 18:30** *End of session*

Wednesday 25th

Astrometry and fundamental physics

Chair: N. Gouda

9:00 Sergei Klioner **Challenges of fundamental astrophysics in the Gaia astrometry context - Invited review**

9:30 Aurelien Hees Local tests of gravitation with Solar System Objects

9:50 Anna Velichko Kinematics of our Galaxy from the XPMA and TGAS catalogues

10:10 Alcione Mora The Gaia archive facility: how to use it?

10:30 **Coffee break** - *Poster viewing*

11:00 **Poster viewing**

12:00 Christine Ducourant The known gravitational quasar lenses observed by Gaia in DR1

12:20 David Hobbs GaiaNIR - A future all-sky astrometry mission

12:40 Hamish Silverwood Determinations of the Local Dark Matter Density

13:00 *End of session*

16:00 **Tour and dinner-cocktail at the Oceanographic Museum of Monaco**



Musée Océanographique de Monaco

Thursday 27th

Galactic Archaeology

Chair: B. Nordstrom

- 9:00** Ivan Minchev **Galaxy simulations in the Gaia era - Invited review**
- 9:30** Amina Helmi *A box full of chocolates, Structure of the nearby stellar halo with Gaia & RAVE*
- 9:50** Georges Kordopatis *The metallicity distribution function of the Milky Way disc with Gaia-DR1*
- 10:10** Kohei Hattori *Dynamical effects of the spiral arms on the velocity distribution of disc stars*
- 10:30** **Coffee break** - *Poster viewing*
- 11:00** James Binney **Selfconsistent modeling of the Milky Way using Gaia data - Invited review**
- 11:30** Wilma Trick *Action-based Dynamical Modeling of the Milky Way Disk with Gaia and RAVE*
- 11:50** Jo Bovy *Galactic dynamics with Gaia DR1*
- 12:10** Andreas Just *The evolution history of the extended solar neighbourhood*
- 12:30** David Cole *Selfconsistent Modelling of the Milky Way using Gaia data*
- 12:50** **Lunch break**

Thursday 27th (cont.)

Solar System

Chair: M. Delbo

14:40 Paolo Tanga [The Solar System seen by Gaia, from the observation to the data release](#)

15:00 Bruno Sicardy **Stellar astrometry and asteroids - Invited review**

15:30 Anatoliy Ivantsov [Prospects for asteroid mass determination from close encounters](#)

15:50 Josef Durech [Reconstruction of asteroid shapes: Gaia photometry & ground-based observations](#)

16:10 **Coffee break** - *Poster viewing*

16:40 Federica Spoto [Investigating the contribution of Gaia DR1 to asteroid orbit determination](#)

17:00 Altair Ramos Gómez [Predictions of Stellar Occultations by Irregular Satellites up to 2020](#)

17:20 Diane Bérard [Gaia impact in the study of Chariklo's ring system](#)

17:40 Josselin Desmars [Prediction of stellar occultations by distant solar system bodies in the Gaia era](#)

18:00 *End of session*

19:30 **Conference dinner**



Friday 28th

Stellar Physics

Chair: A. Bragaglia

- 9:00** Marc Pinsonneault **Stellar ages in the Gaia sky** - Invited review
- 9:30** Pierre Kervella *Optical interferometry & Gaia parallaxes: Cepheid distance scale*
- 9:50** Jeff Andrews *Wide Binaries in Gaia, Method and First Results*
- 10:10** Elisa Delgado Mena *Abundance ratios & age of stellar populations in HARPS-GTO sample*
- 10:30** **Coffee break** - *Poster viewing*

Galactic Archaeology

Chair: A. Bragaglia

- 11:00** Laura Ruíz-Dern *Calibration and characterization of the Gaia Red Clump*
- 11:20** Maosheng Xiang *Disk structure & metallicity of mono-age populations from LAMOST*
- 11:40** Martin Smith *Gaia-LAMOST Symbiosis - Chemodynamical evolution of the solar vicinity*
- 12:00** Jorrit Hagen *The kinematics of the disk from RAVE and TGAS*
- 12:20** Eloisa Poggio *Search for Galactic warp signal in Gaia DR1 proper motions*
- 12:40** Tommaso Marchetti *Hypervelocity Star Candidates in Gaia DR1*
- 13:00** **Lunch break**

DR2 & Conclusions

Chair: T. Prusti

- 14h30** Dafydd Wyn Evans **Gaia Photometric Data- DR1 results and DR2 expectations**
- 15h00** Gerry Gilmore **Symposium summary**
- 15h30** François Mignard **Astrometry and Astrophysics in the Gaia era: concluding remarks**
- 16h00** **Coffee break** - *End of the conference*