Francesco D'Eugenio - Curriculum Vitæ

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Education

- Ph.D. Astrophysics, Oxford University, 2014
Supervisors: Prof. Roger L. Davies and Dr. Ryan C. W. Houghton
Title: *Kinematics and shape of galaxies in rich clusters*
- M.Sc. Astrophysics, *Summa Cum Laude*, University of Bologna, 2009 Supervisor: Prof. Luca Ciotti
- B.Sc. Astronomy, *Summa Cum Laude*, University of Bologna, 2006 Supervisor: Prof. Luca Ciotti

Research Positions

- Postdoctoral position in Galaxy Evolution, University of Ghent, April 2018 – present
Data analysis and calibration, resolved stellar populations and mock comparison sample for the LEGA-C extragalactic survey.
- SAMI Postdoctoral Research Fellow, Australian National University, March 2015 – March 2018
Data reduction and analysis, photometry, quality control and fundamental plane science for the SAMI integral-field spectroscopy survey.
- Postdoctoral Research Assistant in the Evolution of Galaxies in Clusters,
Oxford University, July 2014 – March 2015
FORS2 observations: design, data reduction and analysis.

Collaborations

I am a full team member of the following surveys.

- The *SAMI Galaxy Survey.* Data reduction pipeline, data analysis pipeline, galaxy sizes and shapes.
- The *LEGA-C Survey.* Data analysis pipeline, redshift measurement, flux calibration, photometry, Lick indices and stellar populations.
- The *MUSE large program MAGPI.* Leading the stellar kinematics working group.
- The *StePS 4MOST Survey* (proposed subsurvey of 4MOST). Figure of merit of the subsurvey, dynamics science case.

Publication Record

Citations: 357 h-index: 15

- The SAMI Galaxy Survey: stellar population and structural trends across the Fundamental Plane, **D'Eugenio F.** et al., MNRAS, 504, 5098, (2021)
- Inverse stellar population age gradients of post-starburst galaxies at z = 0.8 with LEGA-C, **D'Eugenio F.** et al., MNRAS, 497, 389, (2020)
- SHαDE: Survey description and mass-kinematics scaling relations for dwarf galaxies, Barat D., **D'Eugenio F.** et al., MNRAS, 498, 5885 (2020)

• Gravitational Potential and Surface Density Drive Stellar Populations. II. Star-forming Galaxies, Barone T. M., **D'Eugenio F.** et al., ApJ, 898, 62 (2020)

• The SAMI Galaxy Survey: mass-kinematics scaling relations, Barat D., **D'Eugenio F.** et al., MNRAS, 487, 2924 (2019)

• The gas-phase metallicities of star-forming galaxies in aperture-matched SDSS samples follow potential rather than mass or average surface density, **D'Eugenio F.** et al., MNRAS, 479, 1807 (2018)

• The SAMI Galaxy Survey: Gravitational Potential and Surface Density Drive Stellar Populations. I. Early-type Galaxies, Barone T. M., **D'Eugenio F.** et al., ApJ, 856, 64 (2018)

• On the distribution of galaxy ellipticity in clusters, **D'Eugenio F.** et al., MNRAS, 451, 827 (2015)

• Fast and slow rotators in the densest environments: a FLAMES/GIRAFFE IFS study of galaxies in Abell 1689 at z=0.183, **D'Eugenio F.** et al., MNRAS, 429, 1258 (2013)

• The SAMI Galaxy Survey: the third and final data release, Croom S. M. et al., (in press)

• The SAMI Galaxy Survey: Stellar Populations of Passive Spiral Galaxies in Different Environments, Pak M. et al., ApJ, 906, 43

• The MAGPI Survey – science goals, design, observing strategy, early results and theoretical framework, Foster C. et al., (in press)

• The SAMI Galaxy Survey: Towards an Optimal Classification of Galaxy Stellar Kinematics, van de Sande J. et al, (submitted)

• Tightly Coupled Morpho-kinematic Evolution for Massive Star-forming and Quiescent Galaxies across 7 Gyr of Cosmic Time, de Graaff A. et al., ApJL, 903, 30 (2020)

• Dust Attenuation Curves at $z \approx 0.8$ from LEGA-C: Precise Constraints on the Slope and 2175 $\AA$ Bump Strength, Barišić I. et al., ApJ, 903, 146 (2020)

• The SAMI Galaxy Survey: decomposed stellar kinematics of galaxy bulges and disks, Oh S. et al, MNRAS, 495, 4638 (2020)

• Stellar Kinematics and Environment at $z \approx 0.8$ in the LEGA-C Survey: Massive Slow Rotators Are Built First in Overdense Environments, Cole J. et al., ApJL, 890, 25 (2020)

• The Colors and Sizes of Recently Quenched Galaxies: A Result of Compact Starburst before Quenching, Wu P-F et al., ApJ, 888, 77 (2020)

• The SAMI galaxy survey: stellar population radial gradients in early-type galaxies, Ferreras I. et al., MNRAS, 489, 608 (2019)

• The SAMI Galaxy Survey: Data Release Two with absorption-line physics value-added products, Scott N. et al., MNRAS, 481, 2299 (2018)

• 1D Kinematics from Stars and Ionized Gas at $z \approx 0.8$ from the LEGA-C Spectroscopic Survey of Massive Galaxies, Bezanson R. et al., ApJL, 868, 36 (2018)

• The SAMI Galaxy Survey: gas content and interaction as the drivers of kinematic asymmetry, Bloom J. V. et al., MNRAS, 476, 2339 (2018)

• A relation between the characteristic stellar ages of galaxies and their intrinsic shapes, van de Sande J. et al., NatAs, 2, 438 (2018)

• The SAMI Galaxy Survey: Data Release One with emission-line physics value-added products, Green A. W. C. et al., MNRAS, 475, 716 (2018)

• A photometric analysis of Abell 1689: two-dimensional multistructure decomposition, morphological classification and the Fundamental Plane, Dalla Bontà E. et al, MNRAS, 474, 339 (2018)

• The SAMI Galaxy Survey: global stellar populations on the size-mass plane, Scott N. et al., MNRAS, 472, 2833 (2017)

- The SAMI Galaxy Survey: the low-redshift stellar mass Tully-Fisher relation, Bloom J. V. et al., MNRAS, 472, 1809 (2017)
- The SAMI Galaxy Survey: revising the fraction of slow rotators in IFS galaxy surveys, van de Sande J. et al., MNARS, 472, 1272 (2017)
- The SAMI Galaxy Survey: the intrinsic shape of kinematically selected galaxies, Foster C. et al., MNRAS, 472, 966 (2017)
- Self-consistent Bulge/Disk/Halo Galaxy Dynamical Modeling Using Integral Field Kinematics, Taranu D. S. et al., ApJ, 850, 70 (2017)
- The SAMI Galaxy Survey: Mass as the Driver of the Kinematic Morphology-Density Relation in Clusters, Brough S. et al., ApJ, 844, 59 (2017)
- The SAMI Galaxy Survey: Revisiting Galaxy Classification through High-order Stellar Kinematics, van de Sande J. et al., ApJ, 835, 104 (2017)
- The SAMI Galaxy Survey: the link between angular momentum and optical morphology, Cortese L. et al., MNRAS, 463, 170 (2016)
- The SAMI Pilot Survey: stellar kinematics of galaxies in Abell 85, 168 and 2399, Fogarty L. M. R. et al., MNRAS, 454, 2050 (2015)
- Fast and slow rotators in the densest environments: a SWIFT IFS study of the Coma cluster, Houghton R. C. W. et al., MNRAS, 436, 19 (2013)

Conference Talks

"Resolved stellar population gradients 7 Gyr ago with LEGA-C", 12-16th April 2021, Santiago, Chile
"Evidence of compaction from stellar population gradients in post-starburst galaxies at redshift z$\sim$0.8", 17-21st February 2019, Sydney, Australia
"The SAMI Galaxy Survey Scaling Relations", 19-23rd September 2016, Hobart, Australia
"Early Type Galaxies and their Environment: An IFS Perspective", 2nd March 2015, Oxford, UK
"Fast and Slow Rotators in the densest environments", 23-26th June 2014, Portsmouth, UK
"Evolution of galaxies, their central black holes and their large-scale environment", 20-24th September 2010, Potsdam, Germany

Teaching and supervising experience

Teaching assistant in the 3rd year Undergraduate Astrophysics Laboratory - Oxford University
Teaching assistant in 3 rd year Undergraduate Astrophysics - Australian National University
Teaching assistant in 1 st year Graduate Astrophysics - Universiteit Gent
Co-supervision of Dilyar Barat - Honours Degree in Astrophysics - 2015
Co-supervision of Tania Barone - Honours Degree in Astrophysics - 2016
Co-supervision of Dilyar Barat - PhD in Astrophysics - 2016 - present
Co-supervision of Tania Barone - PhD in Astrophysics - 2016 - present

Funding and research initiative (as principal investigator only)

- 2013: VLT/FORS2 (4 nights) - Mass-selected fundamental plane at $z = 0.5$
- 2017: Keck/KCWI (4 nights) - Stellar kinematics in low-mass galaxies
- 2018: Keck/KCWI (2 nights) - Scaling relations of low-mass galaxies
- 2018: VLT/FLAMES (6 nights) - The SHαDE Hα kinematics survey

Total observing time worth approximately 750 k€.

Programming and IT

- C++, python - *excellent knowledge*
- Shell scripting - *excellent knowledge*
- Fortran, SQL, Java, IDL, GDL - *good knowledge*
- My github page: https://github.com/fdeugenio

Ghent, Belgium
May 28, 2021