

## Dr. Vicente Rodriguez-Gomez

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CONTACT INFORMATION	Instituto de Radioastronomía y Astrofísica Universidad Nacional Autónoma de México Apdo. Postal 72-3, 58089 Morelia, Mexico	<i>E-mail:</i> vrodgom.astro [at] gmail.com <i>Website:</i> <a href="#">GitHub</a> <i>ORCID:</i> 0000-0002-9495-0079
RESEARCH INTERESTS	Galaxy formation and evolution, cosmological simulations, hydrodynamics, galaxy mergers and interactions, galaxy morphology, data analysis	
EDUCATION	<b>Harvard University</b> <b>PhD</b> , Astronomy & Astrophysics 2016 <ul style="list-style-type: none"><li>• Thesis advisor: Lars Hernquist</li><li>• Thesis title: <i>Galaxy mergers and some consequences: the cosmological context</i></li><li>• Secondary Field in Computer Science and Engineering</li></ul> <b>AM</b> , Astronomy 2012	
	<b>National Autonomous University of Mexico</b> <b>BS</b> , Physics 2009	
EMPLOYMENT	<b>Associate Professor</b> 2018 – Present Instituto de Radioastronomía y Astrofísica, Universidad Nacional Autónoma de México <b>Postdoctoral Fellow</b> 2016 – 2018 Department of Physics & Astronomy, Johns Hopkins University Supervisor: Jennifer Lotz <b>Postdoctoral Fellow</b> 2016 Institute for Theory and Computation, Harvard-Smithsonian Center for Astrophysics Supervisor: Lars Hernquist	
SUMMARY OF PUBLICATIONS	<b>Publications:</b> 59 refereed (5 as first author) <b>Citations:</b> 4850 in total (1190 as first author) <b>Bibliometrics:</b> <i>h</i> -index of 31	
PUBLIC SOFTWARE PACKAGES	<ul style="list-style-type: none"><li>• <b>statmorph</b> <a href="https://statmorph.readthedocs.io">https://statmorph.readthedocs.io</a> Python package for calculating morphological diagnostics of galaxy images</li><li>• <b>SubLink</b> <a href="https://bitbucket.org/vrodgom/sublink">https://bitbucket.org/vrodgom/sublink</a> C++ code for constructing and analyzing merger trees in cosmological simulations</li><li>• <b>galaxev_pipeline</b> <a href="https://github.com/vrodgom/galaxev_pipeline">https://github.com/vrodgom/galaxev_pipeline</a> Python and C code for generating synthetic images of simulated galaxies</li></ul>	
GRANTS	<ul style="list-style-type: none"><li>• NASA JWST Cycle 1 General Observer Program (Co-I) 2021</li><li>• XSEDE Computing allocation (Co-I) 2019–2020</li><li>• PAPIIT Grant, UNAM (PI) 2019</li><li>• UC MEXUS–CONACyT Collaborative Grant (PI) 2019</li><li>• NASA HST Cycle 27 Archival Research Program (Co-I) 2019</li><li>• NASA HST Cycle 22 Theory Program (Co-I) 2014</li></ul>	
GRADUATE STUDENT MENTORSHIP	<ul style="list-style-type: none"><li>• Alejandro Guzmán-Ortega 2020 – Present</li><li>• Daniel Montenegro-Taborda 2020 – Present</li><li>• Luis Enrique Pérez-Montaño 2019 – Present</li></ul>	

ACADEMIC SERVICE	<p><b>Referee for:</b> The Astrophysical Journal, The Astrophysical Journal Letters, Monthly Notices of the Royal Astronomical Society, Astronomy &amp; Astrophysics, Astronomy &amp; Computing, Universe (MDPI)</p> <p><b>Proposal reviewer for:</b> European Research Council, Dutch Research Council (NWO), PAPIIT-UNAM, University of Guanajuato</p>	
TEACHING	<ul style="list-style-type: none"> <li>• <b>Professor</b>, Instituto de Radioastronomía y Astrofísica, UNAM <i>Preparatory Course in Electromagnetism</i> Fall 2021</li> <li>• <b>Professor</b>, Instituto de Radioastronomía y Astrofísica, UNAM <i>Cosmology</i> Spring 2021</li> <li>• <b>Professor</b>, Instituto de Radioastronomía y Astrofísica, UNAM <i>Preparatory Course in Electromagnetism</i> Fall 2020</li> <li>• <b>Professor</b>, Instituto de Radioastronomía y Astrofísica, UNAM <i>Cosmology</i> Fall 2019</li> <li>• <b>Workshop Instructor</b>, Clubes de Ciencia, Mexico <i>High-Performance Computing: from Climate Models to Cosmology</i> Summer 2019</li> <li>• <b>Professor</b>, Escuela Nacional de Estudios Superiores - Morelia <i>Distributed Computing</i> Spring 2019</li> <li>• <b>Workshop Instructor</b>, Clubes de Ciencia, Mexico <i>Accelerating Science Using Multiple Processors</i> Summer 2015</li> <li>• <b>Workshop Instructor</b>, Clubes de Ciencia, Mexico <i>Simulating Structure Formation in the Universe</i> Summer 2014</li> <li>• <b>Teaching Fellow</b>, Harvard University <i>Computing Foundations for Computational Science</i> Fall 2013</li> <li>• <b>Teaching Fellow</b>, Harvard University <i>Introduction to Quantum Mechanics</i> Fall 2012</li> <li>• <b>Trainer</b>, Physics Olympiad 2009 – 2010 Instructor of the Mexican students who participated in the 40th and 41st International Physics Olympiads</li> </ul>	
OUTREACH	<ul style="list-style-type: none"> <li>• <b>Popular Media</b>, The Atlantic <i>Look at What Happens When Two Galaxies Collide</i> 2022</li> <li>• <b>Outreach Talk</b>, Tecnológico de Costa Rica (remote) <i>The Unexpected Effect of Black Holes on Neighboring Galaxies</i> 2021</li> <li>• <b>Popular Media</b>, El Sol de Zamora <i>Agujeros negros podrían regular creación de galaxias</i> 2021</li> <li>• <b>Outreach Talk</b>, Tecnológico de Costa Rica (remote) <i>A Decade of Cosmological Simulations</i> 2021</li> <li>• <b>Outreach Talk</b>, La Jacaranda Cultural, Patzcuaro <i>A Decade of Cosmological Simulations</i> 2020</li> <li>• <b>Interview</b>, Sistema Michoacano de Radio y TV <i>Featured in the weekly radio program Clasificación... pero con C de Ciencia</i> 2019</li> <li>• <b>Interview</b>, UNAM Campus Morelia <i>Featured in the 77th issue of the BUM bimonthly bulletin</i> 2019</li> </ul>	
SELECTED SCIENTIFIC TALKS	<ul style="list-style-type: none"> <li>• GECO Seminar, Laboratoire d'Astrophysique de Marseille, France (remote) 2022</li> <li>• Astroclub, Observatorio Astronómico de Córdoba, Argentina (remote) 2022</li> <li>• Astroseminar, Macquarie University, Sydney, Australia (remote) 2021</li> <li>• Clash of the Titans Workshop, Lorentz Center, Leiden, Netherlands (remote) 2021</li> <li>• Galaxy Crawl, University of Arizona, Tucson, AZ (remote) 2020</li> <li>• Seminar, Mesoamerican Centre for Theoretical Physics, Tuxtla, Mexico 2020</li> <li>• Astronomy Colloquium, IRyA-UNAM, Morelia, Mexico 2020</li> <li>• II Mexican Extragalactic Meeting, Morelia, Mexico 2019</li> </ul>	

• Galaxy Angular Momentum Alignment, Shanghai, China	2019
• LXII Meeting of the Mexican Physical Society, Villahermosa, Mexico	2019
• Santa Cruz Galaxy Workshop, University of California, Santa Cruz, CA	2019
• Construyendo el futuro - Encuentros de ciencia, Xochitepec, Mexico	2018
• IllustrisTNG Science Workshop, Garching, Germany	2018
• Santa Cruz Galaxy Workshop, University of California, Santa Cruz, CA	2018
• Galaxy Interactions and Mergers Across Cosmic Time, Sexten, Italy	2018
• The Growth of Galaxies in the Early Universe - IV, Sexten, Italy	2018
• Astronomy Colloquium, IRyA-UNAM, Morelia, Mexico	2018
• Galaxy Evolution in Groups and Clusters, Ringberg Castle, Germany	2017
• Astronomy Seminar, CCA, Flatiron Institute, New York, NY	2017
• ITC Luncheon, Harvard University, Cambridge, MA	2017
• Santa Cruz Galaxy Workshop, University of California, Santa Cruz, CA	2017
• HotSci Talk Series, Space Telescope Science Institute, Baltimore, MD	2017
• Galaxies Journal Club, Space Telescope Science Institute, Baltimore, MD	2016
• Astronomy Lunch Seminar, Tufts University, Medford, MA	2016
• The Many Pathways to Galaxy Growth, Prato, Italy	2015
• Astronomy Seminar, University of California, Riverside, CA	2015
• ITC Luncheon, Harvard University, Cambridge, MA	2015
• Astronomy Colloquium, IRyA-UNAM, Morelia, Mexico	2015
• AREPOfest-2 workshop, Cambridge, MA	2014
• Astronomy Colloquium, Columbia University, New York, NY	2014
• AREPOfest workshop, Heidelberg, Germany	2013
• Sussing Merger Trees workshop, Midhurst, UK	2013

REFEREED  
PUBLICATIONS  
AS FIRST AUTHOR

*Galactic angular momentum in the IllustrisTNG simulation - I. Connection to morphology, halo spin, and black hole mass*

**Rodriguez-Gomez, V.**, Genel, S., Fall, S. M., Pillepich, A., Huertas-Company, M., Nelson, D., Pérez-Montaño, L. E., Marinacci, F., Pakmor, R., Springel, V., Vogelsberger, M., and Hernquist, L., 2022, Monthly Notices of the Royal Astronomical Society, 512, 5978

*The optical morphologies of galaxies in the IllustrisTNG simulation: a comparison to Pan-STARRS observations*

**Rodriguez-Gomez, V.**, Snyder, G. F., Lotz, J. M., Nelson, D., Pillepich, A., Springel, V., Genel, S., Weinberger, R., Tacchella, S., Pakmor, R., Torrey, P., Marinacci, F., Vogelsberger, M., Hernquist, L., and Thilker, D. A., 2019, Monthly Notices of the Royal Astronomical Society, 483, 4140

*The role of mergers and halo spin in shaping galaxy morphology*

**Rodriguez-Gomez, V.**, Sales, L. V., Genel, S., Pillepich, A., Zjupa, J., Nelson, D., Griffen, B., Torrey, P., Snyder, G. F., Vogelsberger, M., Springel, V., Ma, C.-P., and Hernquist, L., 2017, Monthly Notices of the Royal Astronomical Society, 467, 3083

*The stellar mass assembly of galaxies in the Illustris simulation: growth by mergers and the spatial distribution of accreted stars*

**Rodriguez-Gomez, V.**, Pillepich, A., Sales, L. V., Genel, S., Vogelsberger, M., Zhu, Q., Wellons, S., Nelson, D., Torrey, P., Springel, V., Ma, C.-P., and Hernquist, L., 2016, Monthly Notices of the Royal Astronomical Society, 458, 2371

*The merger rate of galaxies in the Illustris simulation: a comparison with observations and semi-empirical models*

**Rodriguez-Gomez, V.**, Genel, S., Vogelsberger, M., Sijacki, D., Pillepich, A., Sales, L. V., Torrey, P., Snyder, G., Nelson, D., Springel, V., Ma, C.-P., and Hernquist, L., 2015, Monthly Notices of the Royal Astronomical Society, 449, 49

- The merger and assembly histories of Milky Way- and M31-like galaxies with TNG50: disc survival through mergers*  
Sotillo-Ramos, D., Pillepich, A., Donnari, M., Nelson, D., Eisert, L., **Rodriguez-Gomez, V.**, Joshi, G., Vogelsberger, M., and Hernquist, L., 2022, Monthly Notices of the Royal Astronomical Society, 516, 5404
- A machine learning approach to infer the accreted stellar mass fractions of central galaxies in the TNG100 simulation*  
Shi, R., Wang, W., Li, Z., Han, J., Shi, J., **Rodriguez-Gomez, V.**, Peng, Y., and Li, Q., 2022, Monthly Notices of the Royal Astronomical Society, 515, 3938
- Realistic galaxy images and improved robustness in machine learning tasks from generative modelling*  
Holzschuh, B. J., O’Riordan, C. M., Vegetti, S., **Rodriguez-Gomez, V.**, and Thuerey, N., 2022, Monthly Notices of the Royal Astronomical Society, 515, 652
- The formation of low surface brightness galaxies in the IllustrisTNG simulation*  
Pérez-Montaño, L. E., **Rodriguez-Gomez, V.**, Cervantes Sodi, B., Zhu, Q., Pillepich, A., Vogelsberger, M., and Hernquist, L., 2022, Monthly Notices of the Royal Astronomical Society, 514, 5840
- SDSS-IV MaNGA: Cannibalism Caught in the Act-On the Frequency of Occurrence of Multiple Cores in Brightest Cluster Galaxies*  
Hsu, Y.-H., Lin, Y.-T., Huang, S., Nelson, D., **Rodriguez-Gomez, V.**, Lai, H.-T., Greene, J., Leauthaud, A., Aragón-Salamanca, A., Bundy, K., Emsellem, E., Merrifield, M., More, S., Okabe, N., Rong, Y., Brownstein, J. R., Lane, R. R., Pan, K., and Schneider, D. P., 2022, The Astrophysical Journal, 933, 61
- North Ecliptic Pole merging galaxy catalogue*  
Pearson, W. J., Suelves, L. E., Ho, S. C. -C, Oi, N., Brough, S., Holwerda, B. W., Hopkins, A. M., Huang, T. -C, Hwang, H. S., Kelvin, L. S., Kim, S. J., López-Sánchez, Á. R., Małek, K., Pearson, C., Poliszczuk, A., Pollo, A., **Rodriguez-Gomez, V.**, Shim, H., Toba, Y., and Wang, L., 2022, Astronomy and Astrophysics, 661, A52
- The Fornax3D project: The environmental impact on gas metallicity gradients in Fornax cluster galaxies*  
Lara-López, M. A., Galán-de Anta, P. M., Sarzi, M., Iodice, E., Davis, T. A., Zabel, N., Corsini, E. M., de Zeeuw, P. T., Fahrion, K., Falcón-Barroso, J., Gadotti, D. A., McDermid, R. M., Pinna, F., **Rodriguez-Gomez, V.**, van de Ven, G., Zhu, L., Coccato, L., Lyubenova, M., and Martín-Navarro, I., 2022, Astronomy and Astrophysics, 660, A105
- The building up of observed stellar scaling relations of massive galaxies and the connection to black hole growth in the TNG50 simulation*  
Varma, S., Huertas-Company, M., Pillepich, A., Nelson, D., **Rodriguez-Gomez, V.**, Dekel, A., Faber, S. M., Iglesias-Navarro, P., Koo, D. C., and Primack, J., 2022, Monthly Notices of the Royal Astronomical Society, 509, 2654
- The abundance of satellites around Milky Way- and M31-like galaxies with the TNG50 simulation: a matter of diversity*  
Engler, C., Pillepich, A., Pasquali, A., Nelson, D., **Rodriguez-Gomez, V.**, Chua, K. T. E., Grebel, E. K., Springel, V., Marinacci, F., Weinberger, R., Vogelsberger, M., and Hernquist, L., 2021, Monthly Notices of the Royal Astronomical Society, 507, 4211
- Lower-luminosity Obscured AGN Host Galaxies Are Not Predominantly in Major-merging Systems at Cosmic Noon*

- Lambrides, E. L., Chiaberge, M., Heckman, T., Kirkpatrick, A., Meyer, E. T., Petric, A., Hall, K., Long, A., Watts, D. J., Gilli, R., Simons, R., Tchernyshyov, K., **Rodriguez-Gomez, V.**, Vito, F., de la Vega, A., Davis, J. R., Kocevski, D. D., and Norman, C., 2021, *The Astrophysical Journal*, 919, 129
- ZFIRE: The Beginning of the End for Massive Galaxies at  $z \sim 2$  and Why Environment Matters*  
Harshan, A., Gupta, A., Tran, K.-V., **Rodriguez-Gomez, V.**, Pillepich, A., Alcorn, L. Y., Nanayakkara, T., Kacprzak, G. G., and Glazebrook, K., 2021, *The Astrophysical Journal*, 919, 57
- Anisotropic satellite galaxy quenching modulated by black hole activity*  
Martín-Navarro, I., Pillepich, A., Nelson, D., **Rodriguez-Gomez, V.**, Donnari, M., Hernquist, L., and Springel, V., 2021, *Nature*, 594, 187
- The stellar halos of ETGs in the IllustrisTNG simulations. II. Accretion, merger history, and dark halo connection*  
Pulsoni, C., Gerhard, O., Arnaboldi, M., Pillepich, A., **Rodriguez-Gomez, V.**, Nelson, D., Hernquist, L., and Springel, V., 2021, *Astronomy and Astrophysics*, 647, A95
- A deep learning approach to test the small-scale galaxy morphology and its relationship with star formation activity in hydrodynamical simulations*  
Zanisi, L., Huertas-Company, M., Lanusse, F., Bottrell, C., Pillepich, A., Nelson, D., **Rodriguez-Gomez, V.**, Shankar, F., Hernquist, L., Dekel, A., Margalef-Bentabol, B., Vogelsberger, M., and Primack, J., 2021, *Monthly Notices of the Royal Astronomical Society*, 501, 4359
- MOSEL and IllustrisTNG: Massive Extended Galaxies at  $z = 2$  Quench Later Than Normal-size Galaxies*  
Gupta, A., Tran, K.-V., Pillepich, A., Yuan, T., Harshan, A., **Rodriguez-Gomez, V.**, and Genel, S., 2021, *The Astrophysical Journal*, 907, 95
- Quenched fractions in the IllustrisTNG simulations: the roles of AGN feedback, environment, and pre-processing*  
Donnari, M., Pillepich, A., Joshi, G. D., Nelson, D., Genel, S., Marinacci, F., **Rodriguez-Gomez, V.**, Pakmor, R., Torrey, P., Vogelsberger, M., and Hernquist, L., 2021, *Monthly Notices of the Royal Astronomical Society*, 500, 4004
- Towards a consistent framework of comparing galaxy mergers in observations and simulations*  
Wang, L., Pearson, W. J., and **Rodriguez-Gomez, V.**, 2020, *Astronomy and Astrophysics*, 644, A87
- The Morphology-Density Relationship in  $1 < z < 2$  Clusters*  
Sazonova, E., Alatalo, K., Lotz, J., Rowlands, K., Snyder, G. F., Boone, K., Brodwin, M., Hayden, B., Lanz, L., Perlmutter, S., and **Rodriguez-Gomez, V.**, 2020, *The Astrophysical Journal*, 899, 85
- The fate of disc galaxies in IllustrisTNG clusters*  
Joshi, G. D., Pillepich, A., Nelson, D., Marinacci, F., Springel, V., **Rodriguez-Gomez, V.**, Vogelsberger, M., and Hernquist, L., 2020, *Monthly Notices of the Royal Astronomical Society*, 496, 2673
- The bivariate gas-stellar mass distributions and the mass functions of early- and late-type galaxies at  $z \sim 0$*   
Rodríguez-Puebla, A., Calette, A. R., Avila-Reese, V., **Rodriguez-Gomez, V.**, and Huertas-Company, M., 2020, *Publications of the Astronomical Society of Australia*, 37, e024

*Correlations between Black Holes and Host Galaxies in the Illustris and IllustrisTNG Simulations*

Li, Y., Habouzit, M., Genel, S., Somerville, R., Terrazas, B. A., Bell, E. F., Pillepich, A., Nelson, D., Weinberger, R., **Rodriguez-Gomez, V.**, Ma, C.-P., Pakmor, R., Hernquist, L., and Vogelsberger, M., 2020, The Astrophysical Journal, 895, 102

*MOSEL Survey: Tracking the Growth of Massive Galaxies at  $2 < z < 4$  Using Kinematics and the IllustrisTNG Simulation*

Gupta, A., Tran, K.-V., Cohn, J., Alcorn, L. Y., Yuan, T., **Rodriguez-Gomez, V.**, Harshan, A., Forrest, B., Kewley, L. J., Glazebrook, K., Straatman, C. M., Kacprzak, G. G., Nanayakkara, T., Labbé, I., Papovich, C., and Cowley, M., 2020, The Astrophysical Journal, 893, 23

*Galaxy interactions in IllustrisTNG-100, I: The power and limitations of visual identification*

Blumenthal, K. A., Moreno, J., Barnes, J. E., Hernquist, L., Torrey, P., Claytor, Z., **Rodriguez-Gomez, V.**, Marinacci, F., and Vogelsberger, M., 2020, Monthly Notices of the Royal Astronomical Society, 492, 2075

*The Hubble Sequence at  $z \sim 0$  in the IllustrisTNG simulation with deep learning*

Huertas-Company, M., **Rodriguez-Gomez, V.**, Nelson, D., Pillepich, A., Bottrell, C., Bernardi, M., Domínguez-Sánchez, H., Genel, S., Pakmor, R., Snyder, G. F., and Vogelsberger, M., 2019, Monthly Notices of the Royal Astronomical Society, 489, 1859

*A study of stellar orbit fractions: simulated IllustrisTNG galaxies compared to CALIFA observations*

Xu, D., Zhu, L., Grand, R., Springel, V., Mao, S., van de Ven, G., Lu, S., Wang, Y., Pillepich, A., Genel, S., Nelson, D., **Rodriguez-Gomez, V.**, Pakmor, R., Weinberger, R., Marinacci, F., Vogelsberger, M., Torrey, P., Naiman, J., and Hernquist, L., 2019, Monthly Notices of the Royal Astronomical Society, 489, 842

*Morphology and star formation in IllustrisTNG: the build-up of spheroids and discs*

Tacchella, S., Diemer, B., Hernquist, L., Genel, S., Marinacci, F., Nelson, D., Pillepich, A., **Rodriguez-Gomez, V.**, Sales, L. V., Springel, V., and Vogelsberger, M., 2019, Monthly Notices of the Royal Astronomical Society, 487, 5416

*Atomic and molecular gas in IllustrisTNG galaxies at low redshift*

Diemer, B., Stevens, A. R. H., Lagos, C. d. P., Caletto, A. R., Tacchella, S., Hernquist, L., Marinacci, F., Nelson, D., Pillepich, A., **Rodriguez-Gomez, V.**, Villaescusa-Navarro, F., and Vogelsberger, M., 2019, Monthly Notices of the Royal Astronomical Society, 487, 1529

*Automated distant galaxy merger classifications from Space Telescope images using the Illustris simulation*

Snyder, G. F., **Rodriguez-Gomez, V.**, Lotz, J. M., Torrey, P., Quirk, A. C. N., Hernquist, L., Vogelsberger, M., and Freeman, P. E., 2019, Monthly Notices of the Royal Astronomical Society, 486, 3702

*Studying the physical properties of tidal features - I. Extracting morphological substructure in CANDELS observations and VELA simulations*

Mantha, K. B., McIntosh, D. H., Ciaschi, C. P., Evan, R., Ferguson, H. C., Fries, L. B., Guo, Y., Koekemoer, A. M., Landry, L. D., McGrath, E. J., Simons, R. C., Snyder, G. F., Thompson, S. E., Bell, E. F., Ceverino, D., Hathi, N. P., Pacifici, C., Primack, J. R., Rafelski, M., and **Rodriguez-Gomez, V.**, 2019, Monthly Notices of the Royal Astronomical Society, 486, 2643

*The IllustrisTNG simulations: public data release*

Nelson, D., Springel, V., Pillepich, A., **Rodriguez-Gomez, V.**, Torrey, P., Genel, S.,

Vogelsberger, M., Pakmor, R., Marinacci, F., Weinberger, R., Kelley, L., Lovell, M., Diemer, B., and Hernquist, L., 2019, *Computational Astrophysics and Cosmology*, 6, 2

*Anomalously Low-metallicity Regions in MaNGA Star-forming Galaxies: Accretion Caught in Action?*

Hwang, H.-C., Barrera-Ballesteros, J. K., Heckman, T. M., Rowlands, K., Lin, L., **Rodriguez-Gomez, V.**, Pan, H.-A., Hsieh, B.-C., Sánchez, S., Bizyaev, D., Sánchez Almeida, J., Thilker, D. A., Lotz, J. M., Jones, A., Nair, P., Andrews, B. H., and Drory, N., 2019, *The Astrophysical Journal*, 872, 144

*Jellyfish galaxies with the IllustrisTNG simulations - I. Gas-stripping phenomena in the full cosmological context*

Yun, K., Pillepich, A., Zinger, E., Nelson, D., Donnari, M., Joshi, G., **Rodriguez-Gomez, V.**, Genel, S., Weinberger, R., Vogelsberger, M., and Hernquist, L., 2019, *Monthly Notices of the Royal Astronomical Society*, 483, 1042

*The frequency of dwarf galaxy multiples at low redshift in SDSS versus cosmological expectations*

Besla, G., Patton, D. R., Stierwalt, S., **Rodriguez-Gomez, V.**, Patel, E., Kallivayalil, N. J., Johnson, K. E., Pearson, S., Privon, G. C., and Putman, M. E., 2018, *Monthly Notices of the Royal Astronomical Society*, 480, 3376

*SDSS-IV MaNGA: spatially resolved star formation histories and the connection to galaxy physical properties*

Rowlands, K., Heckman, T., Wild, V., Zakamska, N. L., **Rodriguez-Gomez, V.**, Barrera-Ballesteros, J., Lotz, J., Thilker, D., Andrews, B. H., Boquien, M., Brinkmann, J., Brownstein, J. R., Hwang, H. -C, and Smethurst, R., 2018, *Monthly Notices of the Royal Astronomical Society*, 480, 2544

*Formation of a Malin 1 analogue in IllustrisTNG by stimulated accretion*

Zhu, Q., Xu, D., Gaspari, M., **Rodriguez-Gomez, V.**, Nelson, D., Vogelsberger, M., Torrey, P., Pillepich, A., Zjupa, J., Weinberger, R., Marinacci, F., Pakmor, R., Genel, S., Li, Y., Springel, V., and Hernquist, L., 2018, *Monthly Notices of the Royal Astronomical Society*, 480, L18

*Subhalo demographics in the Illustris simulation: effects of baryons and halo-to-halo variation*

Chua, K. T. E., Pillepich, A., **Rodriguez-Gomez, V.**, Vogelsberger, M., Bird, S., and Hernquist, L., 2017, *Monthly Notices of the Royal Astronomical Society*, 472, 4343

*Massive close pairs measure rapid galaxy assembly in mergers at high redshift*

Snyder, G. F., Lotz, J. M., **Rodriguez-Gomez, V.**, Guimarães, R. d. S., Torrey, P., and Hernquist, L., 2017, *Monthly Notices of the Royal Astronomical Society*, 468, 207

*The Information Content of Stellar Halos: Stellar Population Gradients and Accretion Histories in Early-type Illustris Galaxies*

Cook, B. A., Conroy, C., Pillepich, A., **Rodriguez-Gomez, V.**, and Hernquist, L., 2016, *The Astrophysical Journal*, 833, 158

*Sussing merger trees: stability and convergence*

Wang, Y., Pearce, F. R., Knebe, A., Schneider, A., Srisawat, C., Tweed, D., Jung, I., Han, J., Helly, J., Onions, J., Elahi, P. J., Thomas, P. A., Behroozi, P., Yi, S. K., **Rodriguez-Gomez, V.**, Mao, Y.-Y., Jing, Y., and Lin, W., 2016, *Monthly Notices of the Royal Astronomical Society*, 459, 1554

- The diverse evolutionary paths of simulated high- $z$  massive, compact galaxies to  $z = 0$*   
Wellons, S., Torrey, P., Ma, C.-P., **Rodriguez-Gomez, V.**, Pillepich, A., Nelson, D., Genel, S., Vogelsberger, M., and Hernquist, L., 2016, Monthly Notices of the Royal Astronomical Society, 456, 1030
- Modelling galactic conformity with the colour-halo age relation in the Illustris simulation*  
Bray, A. D., Pillepich, A., Sales, L. V., Zhu, E., Genel, S., **Rodriguez-Gomez, V.**, Torrey, P., Nelson, D., Vogelsberger, M., Springel, V., Eisenstein, D. J., and Hernquist, L., 2016, Monthly Notices of the Royal Astronomical Society, 455, 185
- On the assembly of dwarf galaxies in clusters and their efficient formation of globular clusters*  
Mistani, P. A., Sales, L. V., Pillepich, A., Sanchez-Janssen, R., Vogelsberger, M., Nelson, D., **Rodriguez-Gomez, V.**, Torrey, P., and Hernquist, L., 2016, Monthly Notices of the Royal Astronomical Society, 455, 2323
- An analysis of the evolving comoving number density of galaxies in hydrodynamical simulations*  
Torrey, P., Wellons, S., Machado, F., Griffen, B., Nelson, D., **Rodriguez-Gomez, V.**, McKinnon, R., Pillepich, A., Ma, C.-P., Vogelsberger, M., Springel, V., and Hernquist, L., 2015, Monthly Notices of the Royal Astronomical Society, 454, 2770
- The illustris simulation: Public data release*  
Nelson, D., Pillepich, A., Genel, S., Vogelsberger, M., Springel, V., Torrey, P., **Rodriguez-Gomez, V.**, Sijacki, D., Snyder, G. F., Griffen, B., Marinacci, F., Blecha, L., Sales, L., Xu, D., and Hernquist, L., 2015, Astronomy and Computing, 13, 12
- The formation of massive, compact galaxies at  $z = 2$  in the Illustris simulation*  
Wellons, S., Torrey, P., Ma, C.-P., **Rodriguez-Gomez, V.**, Vogelsberger, M., Kriek, M., van Dokkum, P., Nelson, E., Genel, S., Pillepich, A., Springel, V., Sijacki, D., Snyder, G., Nelson, D., Sales, L., and Hernquist, L., 2015, Monthly Notices of the Royal Astronomical Society, 449, 361
- Galactic Angular Momentum in the Illustris Simulation: Feedback and the Hubble Sequence*  
Genel, S., Fall, S. M., Hernquist, L., Vogelsberger, M., Snyder, G. F., **Rodriguez-Gomez, V.**, Sijacki, D., and Springel, V., 2015, The Astrophysical Journal, 804, L40
- Radio emission variability and proper motions of WR 112*  
Yam, J. O., Dzib, S. A., Rodríguez, L. F., and **Rodríguez-Gómez, V.**, 2015, Revista Mexicana de Astronomía y Astrofísica, 51, 35
- The colours of satellite galaxies in the Illustris simulation.*  
Sales, L. V., Vogelsberger, M., Genel, S., Torrey, P., Nelson, D., **Rodriguez-Gomez, V.**, Wang, W., Pillepich, A., Sijacki, D., Springel, V., and Hernquist, L., 2015, Monthly Notices of the Royal Astronomical Society, 447, L6
- Sussing merger trees: the impact of halo merger trees on galaxy properties in a semi-analytic model*  
Lee, J., Yi, S. K., Elahi, P. J., Thomas, P. A., Pearce, F. R., Behroozi, P., Han, J., Helly, J., Jung, I., Knebe, A., Mao, Y.-Y., Onions, J., **Rodriguez-Gomez, V.**, Schneider, A., Srisawat, C., and Tweed, D., 2014, Monthly Notices of the Royal Astronomical Society, 445, 4197
- Introducing the Illustris project: the evolution of galaxy populations across cosmic time*  
Genel, S., Vogelsberger, M., Springel, V., Sijacki, D., Nelson, D., Snyder, G., **Rodriguez-Gomez, V.**, Torrey, P., and Hernquist, L., 2014, Monthly Notices of the Royal Astronomical Society, 445, 175



*Halo mass and assembly history exposed in the faint outskirts: the stellar and dark matter haloes of Illustris galaxies*

Pillepich, A., Vogelsberger, M., Deason, A., **Rodriguez-Gomez, V.**, Genel, S., Nelson, D., Torrey, P., Sales, L. V., Marinacci, F., Springel, V., Sijacki, D., and Hernquist, L., 2014, Monthly Notices of the Royal Astronomical Society, 444, 237

*SUSSING MERGER TREES: the influence of the halo finder*

Avila, S., Knebe, A., Pearce, F. R., Schneider, A., Srisawat, C., Thomas, P. A., Behroozi, P., Elahi, P. J., Han, J., Mao, Y.-Y., Onions, J., **Rodriguez-Gomez, V.**, and Tweed, D., 2014, Monthly Notices of the Royal Astronomical Society, 441, 3488

*Periodic Radio Continuum Emission Associated with the beta Cephei Star V2187 Cyg*

Tapia, M., Rodríguez, L. F., Tovmassian, G., **Rodríguez-Gómez, V.**, González-Buitrago, D., Zharikov, S., and Ortiz-León, G. N., 2014, Revista Mexicana de Astronomia y Astrofisica, 50, 127

*Sussing Merger Trees: The Merger Trees Comparison Project*

Srisawat, C., Knebe, A., Pearce, F. R., Schneider, A., Thomas, P. A., Behroozi, P., Dolag, K., Elahi, P. J., Han, J., Helly, J., Jing, Y., Jung, I., Lee, J., Mao, Y.-Y., Onions, J., **Rodriguez-Gomez, V.**, Tweed, D., and Yi, S. K., 2013, Monthly Notices of the Royal Astronomical Society, 436, 150