Jeffrey Chi Chung Chan

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RESEARCH INTEREST

Galaxy Evolution

Massive Galaxies

Galaxy Clusters

EMPLOYMENT

2017 - Present **University of California, Riverside – Postdoctoral Researcher**
Research Focus: The properties of galaxies in high-redshift galaxy clusters
Active member of GOGREEN, SpARCS, and KMOS-cluster surveys

EDUCATION

2012 - 2016 **Max Planck Institute for Extraterrestrial Physics (MPE) / Ludwig-Maximilian University of Munich (LMU) – Dr. rer. nat. in Astronomy (Magna Cum Laude)**
Dissertation: “Constraining the formation and evolution of cluster galaxies at z~1.5 using sizes and colour gradients”

2010 - 2012 **The University of Hong Kong (HKU) – M.Phil. in Astrophysics**
Dissertation: “Kinematics Constraints on Structuring of the Optical Emission-Line Nebula in NGC 1275”

2007 - 2010 **The University of Hong Kong (HKU) – B.Sc. (First Class Honours)**
(Major in Mathematics/Physics, Minor in Astronomy)
Final year bachelor research project: “Coronal Magnetic Activity at the divide between partially and full convective stars”
Research project: “Measuring the Proper motion of the debris of SN1987A”

AWARDS, SCHOLARSHIPS AND STUDENTSHIPS

2015 – 2016 Ph.D. Studentship (Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR grant))
2012 – 2015 Ph.D. Studentship (MPE)
2010 - 2012 Postgraduate Studentship (HKU)
2010 Best Presenter in Undergraduate Research Colloquium
2009 Li Po Kwai Scholarship
2008 Dean’s Honours List
2007 HKU Foundation Entrance Scholarship

TEACHING AND OUTREACH EXPERIENCE

2017	Helper for the total solar eclipse outreach event at UCR
2014	Demonstrator at Open day at MPE
2010 - 2012	Tutor of PHYS2022 “Observational Astronomy” and PHYS1414 “General Physics I” (HKU)
2008 Aug	Organizer of the Physics Summer Workshop 2008 for High School students
2007 - 2008	Internal Vice Chairperson of Physics Society (HKU)
2007 - 2009	Tutor of junior high school students (Mathematics class, Kumon Hong Kong Co. Ltd.)

OBSERVATION EXPERIENCE

GMOS, Gemini Observatory North - Slit Spectroscopy of galaxies in high-z clusters

2017 Apr Run 2017A – 5 nights

VLT/KMOS, Paranal Observatory - IFU Observation of ETGs in high-z clusters

2015 Sep Observing Runs 095.A-0137(A) – 3 nights

2014 Oct Observing Runs 094.A-0578(A) – 4 nights

2014 Jul Observing Runs 093.A-0051(B) – 7 nights

CONFERENCE PRESENTATIONS AND SEMINARS

2018 Nov	**“The evolution of the cluster red sequence at z~1”** (seminar)	Astronomy seminar, UCR, Riverside
2017 Jul	**“The buildup and structural evolution of the cluster red sequence between redshift z~1-1.5”** (contributed talk)	“Early stages of Galaxy Cluster Formation (GCF2017)” conference, ESO Garching, Germany
2016 Aug	**“KMOS-Cluster Survey - Size, Colour gradients and Resolved Stellar Mass Distribution of Cluster Galaxies at z~1.5”** (contributed talk)	“Deconstructing Galaxies at Cosmic Noon: The Present and Future of Deep Spectroscopic Surveys at High Redshift” conference, Leiden, The Netherlands
2015 Sep	**“KMOS-Cluster - The Fundamental Plane and Resolved Stellar Mass Distribution of Cluster Galaxies at z~1.5”** (contributed talk)	“In the footsteps of galaxies: tracing the evolution of environmental effects” conference, Soverato, Italy
2015 Jul	**“Color gradients in Early-type galaxies”** (seminar)	IMPRS student seminar, MPE, Garching, Germany
2015 Jul	**“KMOS-Cluster Program - The Fundamental Plane and Resolved Stellar Mass Distribution of Cluster Galaxies at z~1.5”** (poster presentation)	“A 3D View on Galaxy Evolution: from Statistics to Physics” conference, Max Planck Institute for Astronomy (MPIA), Heidelberg,

		Germany
2015 Jun	**"KMOS-Cluster - Size, Color gradients and Resolved Stellar Mass Distributions of the Massive Cluster Galaxies at z~1.39"** (contributed talk)	European Week of Astronomy and Space Science (EWASS 2015) conference, La Laguna, Tenerife, Spain
2015 Apr	**"KMOS-Cluster - Size and Resolved Stellar Mass Distribution of Cluster Galaxies at z ~1.4"** (talk)	OPINAS Group retreat, Ringberg, Tegernsee, Germany
2015 Mar	**"Size and Resolved Stellar Mass Distribution of Cluster Galaxies at z ~1.4"** (seminar)	OPINAS seminar, MPE, Garching, Germany
2014 Jun	**"Velocity Dispersion and Resolved Stellar Mass Distribution of Cluster Galaxies at 1< z <2 - Current Status and Preliminary Results from the KMOS-clusters Program"** (contributed talk)	"Future direction in Galaxy Cluster Surveys" conference, École normale supérieure (ENS), Paris, France
2014 Feb	**"Sizes and Stellar Mass Structure of KMOS-Cluster Galaxies"** (talk)	OPINAS Group retreat, Ringberg, Tegernsee, Germany
2013 Apr	**"Kinematic Constraints on Structuring of the Optical Emission-Line Nebula in NGC 1275"** (seminar)	OPINAS seminar, MPE, Garching, Germany
2012 Aug	**"Clues on how the optical nebula in NGC 1275 may be structured from its velocity field"** (contributed talk)	IAU XXVIII General Assembly, Beijing, China

WORKSHOPS AND SUMMER SCHOOLS

2019 Aug	GOGREEN 2019 workshop	York University, Canada
2018 Aug	GOGREEN 2018 workshop	University of Waterloo, Ontario, Canada
2017 Feb	GOGREEN 2017 workshop	The University of Kansas, Lawrence, USA
2015 Dec	KMOS Cluster Workshop 4	MPE, Garching, Germany
2015 Jun	KMOS Cluster Workshop 3	University of Oxford, Oxford, UK
2014 Nov	KMOS Cluster Workshop 2	MPE, Garching, Germany
2013 Feb	KMOS Cluster Workshop 1	University of Oxford, Oxford, UK
2011 Nov	The Hong Kong Workshop on Evolved Stars and Astrophysical Maser	The University of Hong Kong, Hong Kong
2011 Jun	Star Formation Summer School	The Academia Sinica Institute of Astronomy and Astrophysics (ASIAA), Taiwan
2011 Jun	Star Formation through Spectroimaging at High Angular Resolution	The Academia Sinica Institute of Astronomy and Astrophysics

(ASIAA), Taiwan

SKILLS

Language: Fluent in English, Cantonese, Fair in Mandarin

Computer:
- Programming and software development - IDL, Python, C++, VB, JS
- Data analysis software - IRAF, Miriad, AIPS, ds9, QFitsView, E3D, p3d etc.
- Web authoring and design – Node.js, Flask, Adobe Photoshop

REFERENCES

Prof. Gillian Wilson (UCR)
Group leader
gillianw@ucr.edu

Prof. Michael Balogh (U. of Waterloo)
P.I. of GOGREEN survey
mbalogh@uwaterloo.ca

Dr. Roberto Saglia (MPE)
Ph.D. Supervisor
saglia@mpe.mpg.de

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PUBLICATIONS

First Author

- **Chan, J.C.C.**, Wilson, G., Rudnick, G., Muzzin, A., Balogh, M., Nantais, J., van der Burg, R.F.J., Cerulo, P., Biviano, A., Cooper, M.C., Demacro, R., Forrest, B., Lidman, C., Noble, A., Old, L., Pintos-Castro, I., Reeves, A.M.M., Webb, K.A., Yee, H.K.C., Abdullah, M.H., De Lucia, G., Marchesini, D., McGee, S.L., Stefanon, M., Zaritsky, D., "The Rest-frame H-band Luminosity Function of Red Sequence Galaxies in Clusters at 1.0<z<1.3", ApJ, 880, 119
- **Chan, J.C.C.**, Beifiori, A., Saglia, R.P., Mendel, J.T., Stott, J.P., Bender, R., Galametz, A., Wilman, D.J., Cappellari, M., Davies, R.L., Houghton, R.C.W., Prichard, L.J., Lewis, I.J., Sharples, R., Wegner, M., "The KMOS Cluster Survey (KCS). II. The Effect of Environment on the Structural Properties of Massive Cluster Galaxies at Redshift 1.39<z<1.61", ApJ, 856, 8
- **Chan, J.C.C.**, Beifiori, A., Mendel, J.T., Saglia, R.P., Bender, R., Fossati, M., Galametz, A., Wegner, M., Wilman, D.J., Cappellari, M., Davies, R.L., Houghton, R.C.W., Prichard, L.J., Lewis, I.J., Sharples, R., Stott, J.P., "Sizes, Colour gradients and Resolved Stellar Mass Distributions for the Massive Cluster Galaxies in XMMUJ2235-2557 at z = 1.39", MNRAS, 458, 3181C

Contributing author

- Matharu, J., Muzzin, A., Brammer, G.B., van der Burg, R.F.J., Auger, M.W., Hewett, P.C., van der Wel, A., van Dokkum, P., Balogh, M., **Chan, J.C.C.,** Demarco, R., Marchesini, D., Nelson, E.J., Noble, A., Wilson, G., Yee, H.K.C., "HST/WFC3 grism observations of z~1 clusters: the cluster versus field stellar mass-size relation and evidence for size growth of quiescent galaxies from minor mergers", MNRAS, 484, 595 (2019) http://adsabs.harvard.edu/abs/2019MNRAS.484..595M
- Foltz, R., Wilson, G., Muzzin, A., Cooper, M. C., Nantais, J., van der Burg, R.F.J., Cerulo, P., **Chan, J.C.C.,** Fillingham, S.P., Surace, J., Webb, T., Noble, A., Lacy, M., McDonald, M., Rudnick, G., Lidman, C., Demarco, R., Hlavacek-Larrondo, J., Yee, H.K.C., Perlmutter, S., Hayden, B., "The Evolution of Environmental Quenching Timescales to z ˜ 1.6: Evidence for Dynamically Driven Quenching of the Cluster Galaxy Population", ApJ, 866, 136 (2018) http://adsabs.harvard.edu/abs/2018ApJ...866..136F
- Wisnioski, E., Mendel, J. T., Förster Schreiber, N.M., Genzel, R., Wilman, D., Wuyts, S.,

Belli, S., Beifiori, A., Bender, R., Brammer, G., **Chan, J.C.C**., Davies, R.I., Davies, R.L., Fabricius, M., Fossati, M., Galametz, A., Lang, P., Lutz, D., Nelson, E.J., Momcheva, I., Rosario, D., Saglia, R., Tacconi, L. J., Tadaki, K., Übler, H., van Dokkum, P.G., "The KMOS^{3D} Survey: Rotating Compact Star-forming Galaxies and the Decomposition of Integrated Line Widths", ApJ, 855, 97 (2018)
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- Prichard, L.J., Davies, R.L., Beifiori, A., **Chan, J.C.C.**, Cappellari, M., Houghton, R.C.W., Mendel, J.T., Bender, R., Galametz, A., Saglia, R.P., Stott, J.P., Wilman, D.J., Lewis, I.J., Sharples, R., Wegner, M., "The KMOS Cluster Survey (KCS). III. Fundamental Plane of Cluster Galaxies at z~1.80 in JKCS 041", ApJ, 850, 203 (2017)
http://adsabs.harvard.edu/abs/2017ApJ...850..203P
- Balogh, M.L., Gilbank, D.G., Muzzin, A., Rudnick, G., Cooper, M.C., Lidman, C., Biviano, A., Demarco, R., McGee, S.L., Nantais, J., Noble, A., Old, L., Wilson, G., Yee, H.K.C., Bellhouse, C., Cerulo, P., **Chan, J.C.C.**, Pintos-Castro, I., Simpson, R., van der Burg, R.F.J., Zaritsky, D., Ziparo, F., Alonso, M.V., Bower, R.G., De Lucia, G., Finoguenov, A., Lambas, D.G., Muriel, H., Parker, L.C., Rettura, A., Valotto, C., Wetzel, A., "Gemini Observations of Galaxies in Rich Early Environments (GOGREEN) I: survey description", MNRAS, 470, 4168 (2017)
http://adsabs.harvard.edu/abs/2017MNRAS.470.4168B
- Beifiori, A., Mendel, J.T., **Chan, J.C.C.**, Saglia, R.P., Bender, R., Cappellari, M., Davies, R.L., Galametz, A., Houghton, R.C.W., Prichard, L.J., Smith, R., Stott, J.P., Wilman, D.J., Lewis, I.J., Sharples, R., Wegner, M., "The KMOS Cluster Survey (KCS). I. The Fundamental Plane and the Formation Ages of Cluster Galaxies at Redshift $1.4 < z < 1.6$", ApJ, 846, 120 (2017)
http://adsabs.harvard.edu/abs/2017ApJ...846..120B
- Übler, H., Förster Schreiber, N. M., Genzel, R., Wisnioski, E., Wuyts, S., Lang, P., Naab, T., Burkert, A., van Dokkum, P. G., Tacconi, L. J., Wilman, D. J., Fossati, M., Mendel, J. T., Beifiori, A., Belli, S., Bender, R., Brammer, G. B., **Chan, J.C.C.**, Davies, R., Fabricius, M., Galametz, A., Lutz, D., Momcheva, I. G., Nelson, E. J., Saglia, R. P., Seitz, S., Tadaki, K., "The Evolution of the Tully-Fisher Relation between $z \tilde{} 2.3$ and $z \tilde{} 0.9$ with KMOS^{3D}", ApJ, 842, 121 (2017)
http://adsabs.harvard.edu/abs/2017ApJ...842..121U
- Belli, S., Genzel, R., Förster Schreiber, N.M., Wisnioski, E., Wilman, D.J., Wuyts, S., Mendel, J.T., Beifiori, A., Bender, R., Brammer, G.B., Burkert, A., **Chan, J.C.C.**, Davies, R.L., Davies, R., Fabricius, M., Fossati, M., Galametz, A., Lang, P., Lutz, D., Momcheva, I.G., Nelson, E.J., Saglia, R.P., Tacconi, L.J., Tadaki, K., Übler, H., van Dokkum, P., "KMOS^{3D} Reveals Low-level Star Formation Activity in Massive Quiescent Galaxies at $0.7 < z < 2.7$", ApJ, 814, 6 (2017)
http://adsabs.harvard.edu/abs/2017ApJ...841L...6B
- Lang, P., Förster Schreiber, N.M., Genzel, R., Wuyts, S., Wisnioski, E., Beifiori, A., Belli, S., Bender, R., Brammer, G., Burkert, A., **Chan, J.C.C.,** Davies, R., Fossati, M., Galametz, A., Kulkarni, S.K., Lutz, D/; Mendel, J.T., Momcheva, I.G., Naab, T., Nelson, E.J., Saglia, R.P.,

Seitz, S., Tacchella, S., Tacconi, L.J., Tadaki, K., Übler, H., van Dokkum, P.G., Wilman, D.J., "Falling Outer Rotation Curves of Star-forming Galaxies at $0.6 \lesssim z \lesssim 2.6$ Probed with KMOS^{3D} and SINS/zC-SINF", ApJ, 840, 92 (2017) http://adsabs.harvard.edu/abs/2017ApJ...840...92L

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- Wuyts, E., Wisnioski, E., Fossati, M., Förster Schreiber, N.M., Genzel, R., Davies, R., Mendel, J.T., Naab, T., Röttgers, B., Wilman, D.J., Wuyts, S., Bandara, K., Beifiori, A., Belli, S., Bender, R., Brammer, G.B., Burkert, A., **Chan, J.C.C.**, Galametz, A., Kulkarni, S.K., Lang, P., Lutz, D., Momcheva, I.G., Nelson, E.J., Rosario, D., Saglia, R.P., Seitz, S., Tacconi, L.J., Tadaki, K., Übler, H., van Dokkum, P.G., "The Evolution of Metallicity and Metallicity Gradients from z = 2.7 to 0.6 with KMOS^{3D}", ApJ, 827, 74 (2016) http://adsabs.harvard.edu/abs/2016ApJ...827...74W
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- Yu, A., Lim, J., Ohyama, Y., **Chan, J.C.C.**, and Broadhurst, T., "The High-velocity System: Infall of a Giant Low-surface-brightness Galaxy toward the Center of the Perseus Cluster",

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  http://adsabs.harvard.edu/abs/2015ApJ...804L...4M
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  http://adsabs.harvard.edu/abs/2015ApJ...799..209W
- Genzel, R., Förster Schreiber, N.M., Rosario, D., Lang, P., Lutz, D., Wisnioski, E., Wuyts, E., Wuyts, S., Bandara, K., Bender, R., Berta, S., Kurk, J., Mendel, J.T., Tacconi, L.J., Wilman, D.J., Beifiori, A., Brammer, G.B., Burkert, A., Buschkamp, P., **Chan, J.C.C.**, Carollo, C. M., Davies, R., Eisenhauer, F., Fabricius, M., Fossati, M., Kriek, M., Kulkarni, S., Lilly, S. J., Mancini, C., Momcheva, I., Naab, T., Nelson, E.J., Renzini, A., Saglia, R., Sharples, R.M., Sternberg, A., Tacchella, S., van Dokkum, P.G., "Evidence for Wide-spread Active Galactic Nucleus-driven Outflows in the Most Massive z ~ 1-2 Star-forming Galaxies", ApJ, 796, 7 (2014)
  http://adsabs.harvard.edu/abs/2014ApJ...796....7G
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  http://adsabs.harvard.edu/abs/2014ApJ...789L..40W