Emily Sarah Wisnioski **Curriculum Vitae**

Infrared Astronomy Group
Max Planck Institute for Extraterrestrial Physics
Giessenbachstraße
85748 Garching
Germany

Tel: +49 (0)89 30000 3560
Fax: +49 (0)89 30000 3390
E-mail: emily@mpe.mpg.de
Website: astronomy.swin.edu.au/∼ewisnios/
Nationality: United States

Employment

Max Planck Institute for Extraterrestrial Physics, Garching, Germany

Education

Swinburne University of Technology, Melbourne, Australia

Ph.D., Astrophysics, August 2012

- Thesis Advisors: Prof. Karl Glazebrook, Dr. Chris Blake
- *The Kinematic Properties of Clumpy Star-Forming Galaxies.*

  My thesis is a multi-wavelength (UV to FIR) study of luminous irregular galaxies at $z \sim 1.3$ including data taken with ten different facilities. The focus of this work is on the 3D kinematics of each galaxy and the scaling relations of the kpc-size clumps discovered within their discs.

Johns Hopkins University, Baltimore, United States

B.S., Physics, May 2008 (Concentration in Astrophysics, Minor in Mathematics)

Research Interests

Galaxy kinematics
Large scale galaxy outflow and inflow
Star formation on galactic and sub-galactic scales
The influence of the inter-galactic medium on galaxy formation

Research Experience

Programming & Software Experience

IDL*(wrote code for 3D spectral analysis, principal component analysis, line-fitting)*
IRAF *(e.g. twodspec, onedspec, images)*, GALFIT *(model clumps in high-z galaxies)*,
ORAC-DR *(starlink based image/spectra reduction package used to reduce IRIS2 data)*,
Java *(basic programming knowledge)*, HTML *(website design, e.g. WiggleZ website)*

Analysis & Reduction Experience

Integral field spectroscopy	:	near-infrared (Keck-II/OSIRIS)
Multi-fibre spectroscopy	:	optical (AAT/AAOmega)
Long slit spectroscopy	:	near-infrared (AAT/IRIS2, Keck-II/NIRSPEC)
		optical (Keck-I/LRIS)
Broadband imaging	:	near-infrared (AAT/IRIS2)
		mid & far-infrared (Herschel/SPIRE, WISE)

Successful Proposals & Observing Experience

Awarded time on:
as PI: AAT/IRIS2 (8.5 hrs)
as Co-I: Keck-II/OSIRIS (9.5nts), Keck-I/LRIS (2nts), AAT/IRIS2 (10nts), Herschel/SPIRE (6.7hrs), JCMT/SCUBA2 (10hrs)

Observed on:
Keck-II/OSIRIS (7.5nts), Keck-I/LRIS (2nts), AAT/IRIS2 (10nts), AAT/AAOmega (31nts)

Undergraduate Research

2007 *Reducing OH Residuals in WiggleZ Spectra with Principle Component Analysis.*
Advisor: Prof. Karl Glazebrook, Swinburne University of Technology

2006 *Analysis of Foreground Radiation in WMAP from Galactic HII Regions.*
Advisor: Prof. Chuck Bennett, Johns Hopkins University

AWARDS

Swinburne University Postgraduate Research Award, 2008−2011 ($24 000 / yr)
Australian Nuclear Science and Technology Organisation, 2009 & 2011, ($10 240)

PROFESSIONAL ACTIVITIES

Core Team Member of the WiggleZ Dark Energy Survey (2009−*present*)
Member of the Swinburne Time Allocation Committee for Keck (STACK, 2010−2011)
Member of Australian Astronomical Observatory User Committee (AAOUC, 2009−2012)
Member of the Astronomical Society of Australia (ASA, 2008−*present*)

TEACHING & OUTREACH

Supervision of Vacation Scholars (2009−2012)
Instructor for Swinburne Astronomy Online (2009−2011)
Contributor/Geek for "Speed meet a Geek," Australian National Science Week (2009)
Helper for Science in Schools Observation Night (2009)

COLLOQUIA & CONFERENCE PRESENTATIONS:

Invited Talks

2012 July	University of Victoria (Victoria, Canada)
2012 June	Max Planck Institute for Extraterrestrial Physics (Munich, Germany)
2011 Sept.	New Mexico State University (Las Cruces, USA)
2011 Aug.	Durham University (Durham, UK)

Conference Contributed Talks

2012 Mar.	Swinburne Keck Science Workshop (Melbourne, Australia)
2012 Feb.	Large Surveys in the Multi-IFS Era (Sydney, Australia)
2011 Sept.	Keck Science Meeting (Pasadena, USA)
2011 May	ALMA Community Workshop (Sydney, Australia)
2011 Apr.	IFU Astronomy in Australia (Canberra, Australia)
2010 Oct.	Galaxy Evolution: IR to Sub-mm Wavelength Perspective (Guilin, China)
2010 Jul.	Astronomical Society of Australia Annual Science Meeting (Hobart, Australia)
2010 Jun.	Challenges for the GMT (Melbourne, Australia)

Conference Contributed Posters

2012 May	Gas Flows in Galaxies (Baltimore, USA)
2011 Jul.	Galaxy Formation (Durham, UK)
2009 Jul.	The Lyman Alpha Universe (Paris, France)
2009 Jun.	Harvesting the Desert: The Universe between $1 < z < 3$ (Marseilles, France)

Refereed Publications

Wisnioski, E., Glazebrook, K., Blake, C., Wyder, T., Martin, C., Poole, G. B., Sharp, R., Couch, W., Kacprzak, G. G., Brough, S., Colless, M., Contreras, C., Croom, S., Croton, D., Davis, T., Drinkwater, M. J., Forster, K., Gilbank, D. G., Gladders, M., Jelliffe, B., Jurek, R. J., Li, I. H., Madore, B., Pimbblet, K., Pracy, M., Woods, D., Yee, H. K. C. 2011, MNRAS, 417, 2601; *The WiggleZ Dark Energy Survey: high resolution kinematics of luminous star-forming galaxies.*

Wisnioski, E., Glazebrook, K., Blake, C., Poole, G. B., Green, A. W., Wyder, T., Martin, C., 2012, MNRAS, 422, 3339; *Scaling Relations of Star-Forming Regions: from kpc-size clumps to HII regions.*

Poole, G. B., + 23 authors +Wisnioski, E. + 3 authors. 2012, MNRAS, Submitted; *The WiggleZ Dark Energy Survey: probing the epoch of radiation domination using large scale structure.*

Parkinson, D., + 23 authors +Wisnioski, E. + 3 authors. 2012, *PRD*???, Submitted; *The WiggleZ Dark Energy Survey: probing the epoch of radiation domination using large scale structure.*

Blake, C., + 21 authors +Wisnioski, E. + 3 authors. 2012, MNRAS, 425, 405; *The WiggleZ Dark Energy Survey: joint measurements of the expansion and growth history at $z < 1$.*

Scrimgeour, M., + 24 authors +Wisnioski, E. + 3 authors. 2012, MNRAS, 425, 116; *The WiggleZ Dark Energy Survey: the transition to large-scale cosmic homogeneity.*

Contreras, C., + 22 authors + Wisnioski, E. + 3 authors. 2012, MNRAS, Accepted; *The WiggleZ Dark Energy Survey: measuring the cosmic growth rate with the two-point galaxy correlation function.*

Riemer-Sørensen, S., + 23 authors + Wisnioski, E. + 3 authors. 2012, PhRvD, 85, 081101; *The WiggleZ Dark Energy Survey: Cosmological neutrino mass constraint from blue high-redshift galaxies.*

Li, I. H., + 22 authors + Wisnioski, E. + 2 authors. 2012, ApJ, 747, 91; *The WiggleZ Dark Energy Survey: Galaxy Evolution at $0.25 \leq z \leq 0.75$ Using the Second Red-Sequence Cluster Survey (RCS-2).*

Blake, C., + 24 authors + Wisnioski, E. + 3 authors. 2011, MNRAS, 418, 1707; *The WiggleZ Dark Energy Survey: mapping the distance-redshift relation with baryon acoustic oscillations.*

Blake, C., + 20 authors + Wisnioski, E. + 3 authors. 2011, MNRAS, 418, 1725; *The WiggleZ Dark Energy Survey: measuring the cosmic expansion history using the Alcock-Paczynski test and distant supernovae.*

Blake, C., + 21 authors + Wisnioski, E. + 3 authors. 2011 MNRAS, 415, 2892; *The WiggleZ Dark Energy Survey: testing the cosmological model with baryon acoustic oscillations at z= 0.6.*

Blake, C., + 20 authors + Wisnioski, E. + 3 authors. 2011, MNRAS, 415, 2876; *The WiggleZ Dark Energy Survey: the growth rate of cosmic structure since redshift z=0.9.*

Mandelbaum, R., + 20 authors + Wisnioski, E. + 2 authors. 2011, MNRAS, 410, 844; *The WiggleZ Dark Energy Survey: direct constraints on blue galaxy intrinsic alignments at intermediate redshifts.*

Blake, C. + 17 authors + Wisnioski, E. + 2 authors. 2010, MNRAS, 406, 803; *The WiggleZ Dark Energy Survey: the selection function and $z = 0.6$ galaxy power spectrum.*

Drinkwater, M. J. + 23 authors + Wisnioski, E. + 2 authors. 2010, MNRAS, 401, 1429; *The WiggleZ Dark Energy Survey: survey design and first data release.**

CONFERENCE PROCEEDINGS

Wisnioski, E., Glazebrook, K., Blake, C., & The WiggleZ Team. 2011, ASP Conference Series, 446, Galaxy Evolution: Infrared to Millimetre Wavelength Perspective, 235; *Clumpology of Starbursts in the WiggleZ Dark Energy Survey.*

PUBLICATIONS IN PREPARATION

Green, A., Glazebrook, K., McGregor, P. J., Damjanov, I., Wisnioski, E., Crain, R., Poole, G. B., Abraham, R. G., Sharp, R. G., McCathy, P. J. ApJ, 2012; *Resolved Kinematics of Hα Luminous Galaxies Selected from the Sloan Survey.*

– *Expected Submission to ApJ in summer 2012*

Wisnioski, E., et al. 2012, MNRAS; *Probing the Dust Properties of Clumpy Disc Galaxies at z∼1.3 with Herschel/SPIRE.*

– *Expected submission to MNRAS in autumn 2012.*