

# Catherine Heymans

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Nationality: British

## Research Career

- 2010-date European Research Council Ideas Laureate, Starting Grant PI, Senior Fellow, Institute for Astronomy, University of Edinburgh, UK.
- 2008-2010 Senior Advanced Fellowship, Institute for Astronomy, University of Edinburgh, UK, including 6 months of maternity leave
- 2007-2008 Marie Curie Outgoing International Fellowship, University of British Columbia, Canada, and the Institut d'Astrophysique de Paris, France.
- 2005-2007 CITA National Fellowship, University of British Columbia, Canada, including 6 months of maternity leave.
- 2003-2005 Postdoctoral fellowship, Max-Planck-Institut für Astronomie, Germany.
- 2000-2003 **Astrophysics DPhil**, University of Oxford, UK.  
*Weak Gravitational Lensing and Intrinsic Alignments.*
- 1998-1999 Anglo-Australian Observatory summer research scholarship and a Cormack research scholarship from the Royal Society of Edinburgh.
- 1996-2000 Masters in Physics with 1st class honours in Astrophysics. University of Edinburgh, UK.

## Professional Skills

- ☀ Chair of the Management Board of the Canada-France-Hawaii-Telescope Legacy Survey Systematics Task Force and second PI for the CFHTLS weak lensing systematics team.
- ☀ Principal Investigator of the Shear TEsting Programme (STEP), an international collaboration of lensing scientists. STEP aims to improve the accuracy of weak lensing analysis through the exchange of data and technical knowledge.
- ☀ Hubble Space Telescope Extragalactic Panel Member for the Cycle 17 Time Allocation Committee.
- ☀ Instigator and lead organiser of the 2007 Dark Universe Conference at the University of British Columbia, Canada. Co-organiser of the 2005 and 2007 STEP workshops at the Jet Propulsion Laboratory, USA and the 2008 Intrinsic Alignment Workshop at University College London.
- ☀ Referee of articles for ApJ, MNRAS, the New Journal of Physics, Publications of the Astronomical Society of the Pacific, Astroparticle Physics.
- ☀ Interviewer for physics undergraduate admissions, St Catherine's College, Oxford. (2000-2003)
- ☀ Attended Edinburgh Researcher Development Management course, PPARC professional development Research Councils School and the UBC research team management workshop.

## Research Funding

- 2010-2015 PI award of a European Research Council Starting Investigators Grant for 1.2M£.
- 2009-2010 PI award of a Royal Society Research Grant for £15,000 of computing equipment for the analysis of intrinsic galaxy alignments in early Pan-STARRS data.
- 2008-2013 Co-I of the Institute for Astronomy's STFC rolling grant that supports five Extragalactic Astronomy and Cosmology PDRAs at the institute.
- 2005-2008 One of two EU Co-Is on the ADEPT NASA JDEM program, funded for the design and development stage of the mission concept.
- 2008 Co-I of GREAT08 Pascal Challenge Grant which has been used to fund a research assistant for 2 months to produce simulated weak lensing data.
- 2007-2009 PI award of a three-year Marie Curie fellowship to fund International research.

## Prizes and Awards

- 2006 The Ernst Patzer Prize for outstanding research carried out at the Max-Planck-Institut fur Astronomie, Germany.
- 2003 UK Science Communicator's Award (PPARC and ESPRC). This award is given to a small number of postgraduate students who have made a significant contribution to making science more relevant and exciting for young people in the UK.
- 2001 Light Senior Scholar Prize from St Catherine's College, Oxford, UK.
- 2000 Emerson Memorial Prize for the most outstanding Masters student to graduate in Astrophysics in 2000. University of Edinburgh, UK.
- 1998 Ramsay Prize for highest grade student advancing to Astrophysics honours at the University of Edinburgh, UK.

## Teaching Experience

- 2005-date Postgraduate and undergraduate supervision of research projects:  
University of British Columbia: J. Benjamin (Masters), M. Milkeraitis (PhD), S. Vafaei (PhD), W. Ngan (Undergraduate)  
University of Edinburgh: E. Grocutt (PhD), E. Allthorpe Mullis (Masters).  
I have attended a Researchers Development course on Effective Supervision.
- 2008-date I am part of the Research Methods in Physics teaching team. This is a new course for undergraduates that we have designed to develop their research and presentation skills. I also teach first year nuclear astrophysics, a graduate level course on Gravitational Lensing and an MPhys Advanced Cosmology course for SUPA.
- 2005-2008 Part-time postdoctoral teaching fellow, University of British Columbia. Two semesters teaching Introductory Physics. One semester lecturing a Masters course on Gravitational Lensing. Guest lecturer for Introductory Astronomy.
- 2003 Astronomy Tutor for final year Mathematics undergraduates, Oxford University.
- 2002 Mathematics Tutor for first year Physics undergraduates, St Catherine's College, Oxford.

## Science Communication and Public Outreach

- 2009 *She's an Astronomer: A typical day.* A short film for BCC news during the International Year for Astronomy.
- 2008 *The violent lives of galaxies caught in the cosmic dark matter web.* A press conference at the AAS, CBC Quirks and Quarks Radio show, a public lecture for the RASC, the Royal Observatory Public Talks and the Dundee Astronomical Society. Interviews for Starlight Magazine, Talk 107 FM, the Jodcast and the IoP Inspirational Physics Careers Guide.
- 2007 Science World XX Evening. Panel member for the UBC Welcome Women Event.
- 2006 Interview for the the Brightside Trust, a charity that supports young people with no history of higher education in their family to get into University.
- 2005 *Probing Dark Matter and Dark Energy with Weak Gravitational Lensing.* A public lecture for the Royal Astronomical Society of Canada (RASC).
- 2005 Astronomy day at the Heidelberg International School.
- 2003 UK Science Communicator's Award (PPARC and ESPRC). This award is given to a small number of postgraduate students who have made a significant contribution to making science more relevant and exciting for young people in the UK.
- 2002 Chairperson and judge for the South England 'Express Yourself' conference. At this conference school pupils present results from their science club activities.
- 2001-2003 Researcher in Residence for the Pupil Researcher Initiative (PRI). PRI is a national scheme promoting science and engineering in schools. I designed and delivered a series of talks and experiments on the subject of meteors to 11-16 year olds. I also gave a short cosmology course to A-Level physics students.

- 1998-2000 Tour guide at the Royal Observatory of Edinburgh Visitor Centre. Night sky observing guide for schools and adult groups. Planetarium shows for schools and science festivals in and around Edinburgh.
- 1997-1998 SCIFUN demonstrator for a touring exhibition of table-top physics experiments.

## Observational Experience

- ☀ Co-Investigator in the analysis of over 1000 orbits of ACS HST data through the GEMS, STAGES, COSMOS and ACSPAR surveys.
- ☀ Co-PI allocation of 23 nights on the Isaac Newton Telescope and 1 night with CFHT MegaCam
- ☀ Fifteen nights observing at the Isaac Newton Telescope, INT, using the Wide Field Camera.
- ☀ Seven nights observing at the Anglo Australian Telescope, AAT, using the Two Degree Field system. Acquisition of spectra for the 2dF redshift survey with real time spectral classification.

## Invited Conference and Seminar Talks and Advanced Schools.

2008 *IPM International Advanced School on Weak Gravitational Lensing Techniques.*

Institute for studies in Theoretical Physics and Mathematics (IPM), Tehran, Iran.

This was a 6 day course for graduate students with a 2 hr lecture each morning and practical sessions for the rest of the day. I designed the course structure, wrote and gave all the lectures and planned and carried out the practical sessions. By the end of the course the 30 students could analyse real astronomical data and using lensing techniques to map dark matter.

*The violent lives of galaxies caught in the cosmic dark matter web*

Jodrell Bank Centre for Astrophysics Colloquium, University of Manchester, UK  
Astrophysics Colloquium, Imperial College London, UK.

*Fundamental limitations of weak lensing cosmology*

Cosmology Seminar, Oxford University, UK.  
Departmental Colloquium, Durham University, UK.

2007 *Mass, gas and galaxies in the Abell 901/902 supercluster.*

Physics Colloquium, Lawrence Berkeley National Lab, Berkeley, USA  
Astronomy Colloquium, University of British Columbia, Vancouver Canada .  
Extragalactic Series, Space Telescope Science Institute, Baltimore, USA.  
Herzberg Institute of Astrophysics seminar series, Victoria, Canada.

*Understanding Dark Matter and Dark Energy with weak gravitational lensing.*

Cosmology Colloquium, Simon Fraser University, Canada. (2007)

2006 *Are there any show-stoppers for measuring high precision cosmology with weak lensing?*

Astronomy Seminar, Caltech, USA.

2005 *STEPS towards high precision cosmology with weak gravitational lensing*

Cosmology Seminar, University of California, Berkeley, USA.  
Herzberg Institute of Astrophysics seminar series, Victoria, Canada,

2004 *Dark matter maps and cosmology with HST: a cosmic shear analysis of GEMS*

Institute of Astronomy seminar, Edinburgh University, UK.

## Bibliography

I have authored a total of **48 refereed papers** in international peer-reviewed journals with a **combined total of 2200 citations** (average 45 citations per paper). Three of these papers are “very well known papers” with over 100 citations in total. I am the **first author of 7 journal papers**, four of which are “well known papers” with over 50 citations in total. I am the co-lead author of an additional 3 journal papers, 2 of which are first authored by my Masters/PhD students. **I have a Hirsch index of 21.** These statistics are taken from the SAO/NASA Astrophysics Data System.

### Refereed Papers in Primary Journals

1. *A Weak Lensing Study of X-ray Groups in the COSMOS survey: Form and Evolution of the Mass-Luminosity Relation*  
Leauthaud, A., Finoguenov, A., Kneib, J-P., Taylor, J., Massey, R., Rhodes, J., Ilbert, O., Bundy, K., Tinker, J., George, M., Capak, P., Koekemoer, A., Johnston, D., Zhang, Y., Cappelluti, N., Ellis, R., Elvis, M., **Heymans, C.**, Le Fevre, O., Lilly, S., McCracken, H., Mellier, Y., Refregier, A., Salvato, M., Scoville, N., Smoot, G., Tanaka, M., Van Waerbeke, L., Wolk, M., 2009, ApJ in press.
2. *Results of the GREAT08 Challenge: An image analysis competition for cosmological lensing.*  
Bridle, S., Balan, S., Bethge, M., Gentile, M., Harmeling, S., **Heymans, C.**, Hirsch, M., Hosseini, R., Jarvis, M., Kirk, D., Kitching, T., Kuijken, K., Lewis, A., Paulin-Henriksson, S., Scholkopf, B., Velandar, M., Voigt, L., Witherick, D., Amara, A., Bernstein, G., Courbin, F., Gill, M., Heavens, A., Mandelbaum, R., Massey, R., Moghaddam, B., Rassat, A., Refregier, A., Rhodes, J., Schrabback, Shawe-Taylor, J., Shmakova, M., Van Waerbeke, L., Wittman, D., 2009, MNRAS in press.
3. *Handbook for the GREAT08 Challenge: An image analysis competition for cosmological lensing.*  
Bridle, S., Shawe-Taylor, J., Amara, A., Appelgate, D., Balan, S., Berge, J., Bernstein, G., Dahle, H., Erben, T., Gill, M., Heavens, A., **Heymans, C.**, High, W., Hoekstra, H., Jarvis, M., Kitching, T., Kneib, J.-P., Kuijken, K., Lagatutta, D., Mandelbaum, R., Massey, R., Mellier, Y., Moghaddam, B., Moudren, Y., Nakajima, R., Paulin-Henriksson, S., Pires, S., Rassat, A., Refregier, A., Rhodes, J., Schrabback, T., Semboloni, E., Shmakova, M., Van Waerbeke, L., Voigt, L., Wittman, D., 2009, Annals of Applied Statistics Vol 3, No. 1, 6-37.
4. *Cosmology from a Redshift Survey of 200 Million Galaxies.*  
Eisenstein, D., Bagger, J., Glazebrook, K., **Heymans, C.**, Hinshaw, G., Kruk, J., Larson, D., Hirata, C., Moos, W., Moseley, H., Weiland, J., Verde, L., 2009, Astro2010: The Astronomy and Astrophysics Decadal Survey, Science White Paper no. 70.
5. *Breaking the Degeneracy: Optimal Use of Three-point Weak Lensing statistics.*  
Vafaei, S., Lu, T., Van Waerbeke, L., Semboloni, E., **Heymans, C.**, Pen, U-L, 2009, Astroparticle physics in press.
6. *Sersiclets - A Matched Filter generalisation of Shapelets for Weak Lensing Studies.*  
Ngan, W., Van Waerbeke, L., Mahdavi, A., **Heymans, C.**, Hoekstra, H., 2009, MNRAS, 396,1211.
7. *Sources of contamination to weak lensing tomography: redshift-dependent shear measurement bias.*  
Semboloni, E., Tereno, I., Van Waerbeke, L., **Heymans, C.**, 2009, MNRAS 397, 608.

8. *Relating basic properties of bright early-type dwarf galaxies to their location in Abell 901/902.*  
Barazza, F., Wolf, C., Gray, M., Jogee, S., Balogh, M., McIntosh, D., Bacon, D., Barden, M., Bell, E., Boehm, A., Caldwell, J., Haussler, B., **Heymans, C.**, Jahnke, K., van Kampen, E., Marinova, I., Meisenheimer, K., Peng, C., Sanchez, S., Taylor, A., Wisotzki, L., 2009, *A&A*, 508, 665.
9. *Less Than 10 Percent of Star Formation in  $z \sim 0.6$  Massive Galaxies is Triggered by Major Interactions.*  
Robaina, A., Bell, E., Skelton, R., McIntosh, D., Somerville, R., Zheng, X., Rix, H-W., Bacon, D., Balogh, M., Barazza, F., Barden, M., Boehm, A., Caldwell, J., Gallazzi, A., Gray, M., Haussler, B., **Heymans, C.**, Jahnke, K., Jogee, S., van Kampen, E., Lane, K., Meisenheimer, K., Papovich, C., Peng, C., Sanchez, S., Skibba, R., Taylor, A., Wisotzki, L., Wolf, C., 2009, *ApJ*, 704, 324.
10. *Barred Galaxies in the Abell 901/2 supercluster with STAGES.*  
Marinova, I., Jogee, S., Heiderman, A., Barazza, F., Gray, M., Barden, M., Wolf, C., Peng, C., Bacon, D., Balogh, M., Bell, E., Boehm, A., Caldwell, J., Haussler, B., **Heymans, C.**, Jahnke, K., van Kampen, E., Lane, K., McIntosh, D., Meisenheimer, K., Sanchez, S., Somerville, R., Taylor, A., Wisotzki, L., Zheng, X., 2009, *ApJ* 698, 1639.
11. *Interacting galaxies in the A901/902 Supercluster with STAGES.*  
Heiderman, A., Jogee, S., Marinova, I., van Kampen, E., Barden, M., Peng, C., **Heymans, C.**, Gray, M., Bell, E., Bacon, D., Balogh, M., Barazza, F., Boehm, A., Caldwell, J., Haussler, B., Jahnke, K., Lane, K., McIntosh, D., Meisenheimer, K., Sanchez, S., Somerville, R., Taylor, A., Wisotzki, L., Wolf, C., Zheng, X., 2009, *ApJ*, 705, 1433.
12. *History of Galaxy Interactions and their impact on star formation over the last 7 Gyr from GEMS.*  
Jogee, S., Miller, S., Penner, K., Skelton, R., Conselice, C., Somerville, R., Bell, E., Zheng, X., Rix, H-W., Robaina, A., Barazza, F., Barden, M., Borch, A., Beckwith, S., Caldwell, J., Peng, C., **Heymans, C.**, McIntosh, D., Haussler, B., Jahnke, K., Meisenheimer, K., Sanchez, S., Wisotzki, L., Wolf, C., Papovich, C., 2009, *ApJ*, 697, 1971.
13. *Obscured star formation in intermediate-density environments: A Spitzer study of the Abell 901/902 supercluster.*  
Gallazzi, A., Bell, E., Wolf, C., Gray, M., Papovich, C., Barden, M., Leng, C., Meisenheimer, K., **Heymans, C.**, van Kampen, E., Gilmour, R., Balogh, M., McIntosh, D., Bacon, B., Boehm, A., Caldwell, J., Haussler, B., Jahnke, K., Jogee, S., Lane, K., Robaina, A., Sanchez, S., Taylor, A., Wisotzki, L., Zheng, X., 2009, *ApJ*, 690, 1883.
14. *The STAGES view of red spirals and dusty red galaxies: Mass dependent quenching of star formation in cluster infall*  
Wolf, C., Aragon-Salamanca, A., Balogh, M., Barden, M., Bell, E., Gray, M., Peng, C., Bacon, D., Barazza, F., Boehm, A., Caldwell, J., Gallazzi, A., Haussler, B., **Heymans, C.**, Jahnke, K., Jogee, S., van Kampen, E., Lane, K., McIntosh, D., Meisenheimer, K., Papovich, C., Sanchez, S., Taylor, A., Wisotzki, L., Zheng, X., 2009, *MNRAS* 393, 1302.
15. *STAGES: the Space Telescope A901/2 Galaxy Evolution Survey.*  
Gray, M., Wolf, C., Barden, M., Peng, C., Haussler, B., Bell, E., McIntosh, D., Guo, Y., Caldwell, J., Bacon, D., Balogh, M., Barazza, F., Boehm, A., **Heymans, C.**, Jahnke, K., Jogee, S., van Kampen, E., Lane, K., Meisenheimer, K., Sanchez, S., Taylor, A., Wisotzki, L., Zheng, X., Beswick, D., Saikia, D., Gilmour, R., Johnson, B., Papovich, C., 2009, *MNRAS* 393, 1275.
16. *The dark matter environment of the Abell 901/902 supercluster: a weak lensing analysis of the HST STAGES survey.*  
**Heymans, C.**, Gray, M., Peng, C., Van Waerbeke, L., Bell, E., Wolf, C., Bacon, D., Balogh, M., Barden, M., Barazza, F., Boehm, A., Caldwell, J., Haussler, B., Jahnke, K., Jogee, S., van Kampen, E., Koposov, S., Lane, K., McIntosh, D., Meisenheimer, K., Mellier, Y., Sanchez, S., Taylor, A., Wisotzki, L., Zheng, X., 2008, *MNRAS* 385, 1431.

17. *Bayesian Galaxy Shape Measurement for Weak Lensing Surveys II. Application to Simulations.*  
Kitching, T., Miller, L., **Heymans, C.**, Van Waerbeke, L., Heavens, A., 2008, MNRAS, 390, 149.
18. *Sources of contamination to weak lensing three point statistics: constraints from N-body simulations.*  
Semboloni, E., **Heymans, C.**, Van Waerbeke, L., Schneider, P. 2008, MNRAS 388, 991.
19. *Very weak lensing in the CFHTLS Wide: Cosmology from cosmic shear in the linear regime.*  
Fu, L., Semboloni, E., Hoekstra, H., Kilbinger, M., Van Waerbeke, L., Tereno, I., Mellier, Y., **Heymans, C.**, Coupon, J., Benabed, K., Benjamin, J., Bertin, E., Dore, O., Hudson, M., Ilbert, O., Maoli, R., Marmo, C., McCracken, H., Menard, B., 2008, A&A 479, 9.
20. *Realistic simulations of gravitational lensing by galaxy clusters: extracting arc parameters from mock images.*  
Meneghetti, M., Melchior, P., Grazian, A., De Lucia, G., Dolag, K., Bartelmann, M., **Heymans, C.**, Moscadini, L., Radovich, M., 2008 A&A, 482, 403.
21. *An Explanation for the Observed Weak Size Evolution of Disk Galaxies*  
Somerville, R., Barden, M., Rix, H.-W., S., Bell, E. F., Borch, A., A., Beckwith, Haeussler, B., **Heymans, C.**, Jogee, S., McIntosh, D., Meisenheimer, K., Peng, C., Sanchez, S., Wisotzki, L., Wolf, C., 2008, ApJ 672, 776.
22. *GEMS Survey Data and Catalogue*  
Caldwell, J., McIntosh, D., Rix, H.-W., Barden, M., Bell, E. F., Beckwith, S., Borch, A., Haeussler, B., **Heymans, C.**, Jahnke, K., Jogee, S., Meisenheimer, K., Peng, C., Sanchez, S. F., Somerville, R., Wisotzki, L., Wolf, C., 2008, ApJS 174, 136.
23. *Bayesian Galaxy Shape Measurement for Weak Lensing Surveys -I. Methodology and a Fast Fitting Algorithm*  
Miller, L., Kitching, T., **Heymans, C.**, Heavens, A., Van Waerbeke, 2007, MNRAS 382, 315.
24. *Cosmological constraints from the 100 square degree Weak Lensing Survey*  
Benjamin, J., **Heymans, C.**, Semboloni, E., Van Waerbeke, L., Hoekstra, H., Erben, T., Gladders, M., Hettterscheidt, M., Mellier, Y., Yee, H., 2007, MNRAS 381, 702.
25. *GEMS: Galaxy fitting catalogues and testing parametric galaxy fitting codes*  
Haeussler, B., McIntosh, D., Barden, M., Bell, E. F., Rix, H.-W., Borch, A., Beckwith, S., Caldwell, J., **Heymans, C.**, Jahnke, K., Jogee, S., Kuposov, S., Meisenheimer, K., Peng, C., Sanchez, S. F., Somerville, R., Wisotzki, L., Wolf, C., 2007, ApJS, 172, 615.
26. *Cosmic shear analysis of archival HST/ACS data: I. Comparison of early ACS pure parallel data to the HST/GEMS Survey*  
Schraback, T., Erben, T., Simon, P., Miralles, J., Schneider, P., **Heymans, C.**, Eifler, T., Fosbury, R., Freudling, W., Hettterscheidt, M., Hildebrandt, H., Pirzkal, N., 2007, A&A, 468, 824.
27. *The Stability of the Point Spread Function of the Advanced Camera for Surveys on the Hubble Space Telescope and Implications for Weak Gravitational Lensing*  
Rhodes, J., Massey, R., Albert, J., Collins, N., Ellis, R., **Heymans, C.**, Gardner, J., Kneib, J-P., Koekemoer, A., Leauthaud, A., Mellier, Y., Refregier, A., Taylor, J., Van Waerbeke, L., 2007, ApJS, 172, 203.

28. *Weak Gravitational Lensing in the COSMOS survey: Galaxy Selection and Shape Measurements*  
Leauthaud, A., Massey, R., Kneib, J-P., Rhodes, J., Capak, P., **Heymans, C.**, Ellis, R., Johnston, D., Koekemoer, A., Le Fevre, O., Mellier, Y., Refregier, A., Robin, A., Scoville, N., Tasca, L., Taylor, J., Van Waerbeke, L., 2007, ApJS, 172, 219.
29. *COSMOS: 3D Weak Lensing and the growth of structure*  
Massey, R., Rhodes, J., Leauthaud, A., Capak, P., Ellis, R., Koekemoer, A., Refregier, Scoville, N., Taylor, J., A., Albert, J., Berge, J., **Heymans, C.**, Kneib, J-P., Mellier, Y., Mobasher, B., Semboloni, E., Shopbell, P., Tasca, L., Van Waerbeke, L., 2007, ApJS, 172, 239.
30. *The Shear TEsting Programme 2: Factors affecting high precision weak lensing analyses*  
Massey, R., **Heymans, C.**, Berge, J., Bernstein, G., Bridle, S., Clowe, D., Dahle, H., Ellis, R., Erben, T., Hettterscheidt, M., High, F., Hirata, C., Hoekstra, H., Hudelot, P., Jarvis, M., Johnston, D., Kuijken, K., Margoniner, V., Mandelbaum, R., Mellier, Y., Nakajima, R., Refregier, A., Rhodes, J., Schrabback, T., Schirmer, M., Seljak, U., Semboloni, E., Van Waerbeke, L., 2007, MNRAS, 376, 13.
31. *Cosmic variance of weak lensing surveys in the non-linear regime*  
Semboloni, E., Van Waerbeke, L., **Heymans, C.**, Hamana, T., Colombi, S., White, M., Mellier, Y., 2007, MNRAS, 375L, 6.
32. *Redshift and Shear Calibration: Impact on Cosmic Shear Studies and Survey Design*  
Van Waerbeke, L., White, M., Hoekstra, H., **Heymans, C.**, 2006, Astroparticle Physics, 26, 2, 91.
33. *Potential sources of contamination to weak lensing measurements constraints from N-body simulations.*  
**Heymans, C.**, White, M., Heavens, A., Vale, C., Van Waerbeke, L., 2006, MNRAS, 371, 750.
34. *A weak lensing estimate from GEMS of the virial to stellar mass ratio in massive galaxies to  $z \sim 0.8$*   
**Heymans, C.**, Bell, E. F. Rix, H.-W., Barden, M., Borch, A., Caldwell, J., McIntosh, D., Meisenheimer, K., Peng, C., Wolf, C., Beckwith, S., Haeussler, B., Jahnke, K., Jogee, S., Sanchez, S. F., Somerville, R., Wisotzki, L., 2006, MNRAS, 371L, 60.
35. *The Shear TEsting Programme 1: Weak lensing analysis of simulated ground-based observations*  
**Heymans, C.**, Van Waerbeke, L., Bacon, D., Berge, J., Bernstein, G., Bertin, E., Bridle, S., Brown, M., Clowe, D., Dahle, H., Erben, T., Gray, M., Hettterscheidt, M., Hoekstra, H., Hudelot, P., Jarvis, M., Kuijken, K., Margoniner, V., Massey, R., Mellier, Y., Nakajima, R., Refregier, A., Rhodes, J., Schrabback, T., Wittman, D., 2006, MNRAS, 368, 1323.
36. *Dry Mergers in GEMS: The Dynamical Evolution of Massive Early-Type Galaxies*  
Bell, E., Naab, T., McIntosh, D., Somerville, R., Caldwell, J., Barden, M., Wolf, C., Rix, H.-W., Beckwith, S., Borch, A., Haeussler, B., **Heymans, C.**, Jahnke, K., Jogee, S., Kuposov, S., Meisenheimer, K., Peng, C., Sanchez, S. F., Wisotzki, L., 2006, ApJ, 640, 241.
37. *GEMS: The evolution of disc galaxies out to  $z \sim 1$*   
Barden, M., Rix, H.-W., Somerville, R., Bell, E. F., Haeussler, B., Beckwith, S., Borch, A., Caldwell, J., **Heymans, C.**, Jahnke, K., Jogee, S., McIntosh, D., Meisenheimer, K., Peng, C., Sanchez, S. F., Wisotzki, L., Wolf, C., 2005, ApJ, 635, 959.
38. *Cosmological weak lensing with the HST GEMS survey*  
**Heymans, C.**, Brown, M., Barden, M., Caldwell, J., Jahnke, K., Rix, H.-W., Taylor, A., Beckwith, S., Bell, E. F., Borch, A., Haeussler, B., Jogee, S., McIntosh, D., Meisenheimer, K., Peng, C., Sanchez, S., Somerville, R., Wisotzki, L., Wolf, C., 2005, MNRAS, 361, 160.

39. *The evolution of early-type red galaxies with GEMS: Luminosity-size and mass-size relations since  $z \sim 1$*   
McIntosh, D., Bell, E. F., Rix, H.-W., Wolf, C., **Heymans, C.**, Peng, C., Somerville, R., Barden, M., Beckwith, S., Borch, A., Caldwell, J., Haeussler, B., Jahnke, K., Jogee, S., Meisenheimer, K., Sanchez, S., Wisotzki, L., 2005, ApJ, 632, 191.
40. *GEMS: In what type of galaxies do most stars form at  $z \sim 0.7$ ?*  
Wolf, C., Bell, E. F., McIntosh, D., Rix, H.-W., Barden, M., Beckwith, S., Borch, A., Caldwell, J., Haeussler, B., **Heymans, C.**, Jahnke, K., Jogee, S., Meisenheimer, K., Peng, C., Sanchez, S., Somerville, R., Wisotzki, L., 2005, ApJ, 630 771.
41. *Bar Evolution Over the Last Eight Billion Years: A Constant Fraction of Strong Bars in GEMS*  
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