

- Research Interests
- extragalactic star formation processes and AGN activity
 - galaxy evolution and galaxy morphology
 - interstellar medium
 - internal dynamical evolution and internal structure of spiral galaxies
 - The Cosmic Evolution Survey (COSMOS)

Contact Information

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Research Experience

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| Jan. 2008-present | Postdoctoral researcher
Max-Planck-Institut für Astronomie, Heidelberg, Germany |
| Oct. 2004-Dec. 2007 | Ph.D. research
Eidgenössische Technische Hochschule Zürich
Department of Physics, Institute of Astronomy, Zurich, Switzerland |
| Oct. 2003-Jun. 2004 | Scientific employee & diploma project
Eidgenössische Technische Hochschule Zürich
Department of Earth Sciences, Geodynamics Group, Zurich, Switzerland |
| Fall 2002 | Scientific assistant for magnetotelluric soundings in the Vosges-range (France)
Université de Neuchâtel
Institute of Geology, Group of Geomagnetism, Neuchâtel, Switzerland |

Education

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| Dec. 2007 | Ph.D. in Astronomy, ETH Zürich, Zurich, Switzerland
Thesis: <i>'The Evolution of Disk Galaxies in the COSMOS-Survey'</i>
Advisor: Prof. Dr. C. M. Carollo (ETH Zürich, Switzerland) |
| Mar. 2004 | Diploma (equiv. M.Sc.) in Physics, ETH Zürich, Zurich, Switzerland
Thesis: <i>'Dynamics of the Eurasian plate'</i>
Advisor: Prof. Dr. S. Goes (now at Imperial College London, UK) |

Grants & Proposals

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| Successful Proposals | <i>'Dissecting the Magic Wand of HE 0450-2958'</i> (P.-I.)
6 hours of EVLA observations, Sep. 2010 |
| | <i>'Probing the Molecular Gas Properties of Galaxies at Half the Age of the Universe'</i> (Co.-I.)
16 hours of IRAM PdBI observations, Sep. 2008 |

'Searching for CO in a Starbursting ULIRG at $z = 1.25$ ' (Co.-I.)
9 hours of IRAM PdBI observations, Apr. 2008

- Grants
- *DFG Priority Program 1177* (2009, Co.-I.)
one year of postdoctoral funding (as requested) for research at MPIA in the context of the program '*Witnesses of Cosmic History: Formation and evolution of galaxies, black holes, and their environment*'
 - *Swiss Mobility Fellowship* (2002)
to study at the Université de Neuchâtel, Switzerland

Data & Observing

- Data Analysis
- *HST*-imaging and morphological decomposition of distant galaxies
 - ground-based imaging (optical to near-IR)
 - *Spitzer* mid-IR to far-IR imaging
 - 1.4 GHz imaging
 - survey science (COSMOS, SDSS)
 - handling of large (multiwavelength) data bases
 - finite element modeling
- Visiting Observer
- DBSP spectrograph at the Mt. Palomar 5 m telescope
 - DEIMOS spectrograph at the Keck telescope
 - SuprimeCam imager on the SUBARU telescope

Teaching Experience

- Supervision
- Co-Advisor for Ph.D. student Alex Karim (with Dr. Eva Schinnerer)
Oct. 2008–present
- Labs/ Exercises
- Various duties including organising and composing exercises, and delivering lessons as teaching assistant for the following courses at the ETH Zürich:
 - *Introductory Physics* for material sciences students (2007)
 - *Fundamentals of Astrophysics* for physics students (2006 & 2007)
 - *Introductory Quantum Mechanics* for physics students (2006)
 - *Fundamentals of Electromagnetism* for physics students (2005)
 - *Introductory Physics* for environmental sciences students (2004/2005)

Community Service

- LOC chair for the workshop '*IR10 – Infrared Emission, Interstellar Medium and Star Formation*', to be held from Feb. 22–24, 2010 at the MPIA, Heidelberg, Germany.
- Referee for the *Astrophysical Journal* and *Monthly Notices of the Royal Astronomical Society*

Public Outreach

'International Year of Astronomy' (2009)

Involvement in organizing the institute open house. Editing and translation of institute reports, as well as of didactic articles for astronomy teachers. Presentation of the institute's outreach centre *'Haus der Astronomie'* at the International Book Fair in Frankfurt am Main.

'Night of Physics' (2005)

Involvement in organizing an open house celebrating the 150th anniversary of the ETH Zürich and the *'World Year of Physics'*.

'Physics for Kids & Teens' (2005)

Introducing primary school children to astronomy during the festivities for the *'World Year of Physics'* at the ETH Zürich.

Computer Skills

Operating Systems	Mac, Unix/Linux, Sun/Solaris and MS Windows.
Languages	Perl & PDL, shell-programming (bash & csh), IRAF, <i>AIPS</i> , \LaTeX and HTML. Basic IDL, C++, Fortran77 and Matlab.
Numerical & Plotting Packages	SuperMongo, PGPLOT, Mathematica, Gnuplot and kvis. ABAQUS and Generic Mapping Tools (GMT).

Recent Presentations

Talks	<p><i>'The ISM properties of distant star forming galaxies as constrained by various incarnations of the parameter q'</i> COSMOS Team & Science Meeting, Honolulu, USA, Jun. 2010</p> <p><i>'Different views of the ISM in star-forming systems in the COSMOS field - or: Rhapsody in q'</i> Carnegie Observatories Lunch Talk, Pasadena, USA, Jun. 2010</p> <p><i>'The Evolution of the IR-Radio Relation for AGN Hosts and Starbursts at Intermediate and High Redshift in the COSMOS Field'</i> Meeting 'SKA2010', Manchester, UK, March 2010</p> <p><i>'The IR/Radio Properties of Star Forming and AGN Galaxies at Intermediate and High Redshift in the COSMOS field'</i> Workshop 'Infrared Emission, ISM & Star Formation', Heidelberg, Germany, Feb. 2010</p> <p><i>'Galaxy Evolution'</i> (invited discussion session) Heidelberg Astronomers' Convention 2009, Heidelberg, Germany, Oct. 2009</p> <p><i>'The Evolution of the IR-Radio Relation'</i> COSMOS Team & Science Meeting, Matsuyama, Japan, Jun. 2009</p> <p><i>'Disk Galaxy Evolution in COSMOS'</i> HIA Science Tea, Victoria, Canada, Jan. 2009</p> <p><i>'Disk Galaxy Evolution in COSMOS'</i> Caltech Tea Talk, Pasadena, USA, Jan. 2009</p> <p><i>'The VLA-COSMOS Perspective on the Radio-IR Relation - 1st Results'</i> COSMOS Team & Science Meeting, Paris, France, Jun. 2008</p>
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- Talks
(cont.) *'Disk Galaxy Evolution in COSMOS'*
MPIA/Landessternwarte Hauskolloquium, Heidelberg, Germany, Feb. 2008
- Posters *'Measuring & Understanding Star Formation in the Early Universe'*
Workshop 'The Impact of *Herschel* Surveys on ALMA Early Science',
Garching b. München, Germany, Nov. 2010
- 'The Role of Environment in the Growth of Disk Galaxies'*
Conference 'Galaxies in Isolation: Exploring Nature vs. Nurture',
Granada, Spain, May 2009
- 'The VLA-COSMOS Perspective of the IR-Radio Relation at $z < 1.5$ - Evolution of Star Forming Systems & Selection Effects'*
213th AAS Meeting, Long Beach, USA, Jan. 2009
- 'Size evolution of COSMOS disk galaxies since $z \sim 1$ '*
Conference 'Galaxies and Structures through Cosmic Times', Venice, Italy, Mar. 2006

Publications in Refereed Journals

- (19) *"The Redshift and Nature of AzTEC/COSMOS 1: A Starburst Galaxy at $z = 4.6$ "*
Smolčić, V., Capak, P., Ilbert, O., Blain, A.W., Salvato, M., Masters, D., Morić, I., Riechers, D. A., Sheth, K., Aravena, M., Aussel, H., Aguirre, J., Aretxaga, I., Berta, S., Carilli, C. L., Civano, F., Fazio, G., Huang, J., Hughes, D., Kartaltepe, J., Koekemoer, A. M., Kneib, J.-P., Le Flo'c'h, E., Lutz, D., McCracken, H. J., Mobasher, B., Murphy, E., Pozzi, F., Riguccini, L., Sanders, D. B., **Sargent, M. T.**, Schinnerer, E., Scott, K. S., Scoville, N. Z., Taniguchi, Y., Thompson, D. J., Willott, C., Wilson, G., Yun, M., 2010, *ApJL*, *subm.*
- (18) *"The Star Formation History of Mass-Selected Galaxies in the COSMOS Field"*
Karim, A., Schinnerer, E., Martínez-Sansigre, A., **Sargent, M. T.**, van der Wel, A., Rix, H.-W., Ilbert, O., Smolčić, V., Carilli, C., Pannella, M., Koekemoer, A. M., Bell, E. F., 2010, *ApJ*, *subm.*, (arXiv:1011.6370)
- (17) *"The 10k zCOSMOS: Morphological Transformation of Galaxies in the Group Environment since $z \sim 1$ "*
Kovač, K., Lilly, S. J., Knobel, C., Bolzonella, M., Iovino, A., Carollo, C. M., Scarlata, C., **Sargent, M. T.**, Cucciati, O., Zamorani, G., Pozzetti, L., Tasca, L. A. M., Scodreggio, M., Kampczyk, P., Peng, Y., Oesch, P., Zucca, E., Finoguenov, A., Contini, T., Kneib, J.-P., Le Fèvre, O., Mainieri, V., Renzini, A., Bardelli, S., Bongiorno, A., Caputi, K., Coppa, G., de la Torre, S., de Ravel, L., Franzetti, P., Garilli, B., Lamareille, F., Le Borgne, J. F., Le Brun, V., Maier, C., Mignoli, M., Pello, R., Perez Montero, E., Ricciardelli, E., Silverman, J. D., Tanaka, M., Tresse, L., Vergani, D., Abbas, U., Bottini, D., Cappi, A., Cassata, P., Cimatti, A., Fumana, M., Guzzo, L., Koekemoer, A. M., Leauthaud, A., Maccagni, D., Marinoni, C., McCracken, H. J., Memeo, P., Meneux, B., Porciani, C., Scaramella, R., Scoville, N. Z., 2010, *ApJ*, **718**, 86
- (16) *"The VLA-COSMOS Survey. IV. Deep Data and Joint Catalog"*
Schinnerer, E., **Sargent, M. T.**, Datta, A., Smolčić, V., Carilli, C. L., Bertoldi, F., Blain, A., Bondi, M., Ciliegi, P., Koekemoer, A. M., Scoville, N. Z., 2010, *ApJS*, **188**, 384
- (15) *"No Evolution in the IR-Radio Relation for IR-Luminous Galaxies at $z < 2$ in the COSMOS Field"*
Sargent, M. T., Schinnerer, E., Murphy, E., Carilli, C. L., Helou, G., Aussel, H., Le Flo'c'h, E., Frayer, D., Ilbert, O., Oesch, P., Salvato, M., Smolčić, V., Kartaltepe, J., Sanders, D. B., 2010, *ApJL*, **714**, L190

- (14) *"The Opacity of Galactic Disks at $z \sim 0.7$ "*
Sargent, M. T., Carollo, C. M., Kampczyk, P., Lilly, S. J., Scarlata, C., Capak, P., Ilbert, O., Koekemoer, A. M., J.-P., Leauthaud, A., Massey, R., Rhodes, J., Schinnerer, E., Scoville, N. Z., Taniguchi, Y., 2010, *ApJL*, **714**, L113
- (13) *"The Build-Up of the Hubble Sequence in the COSMOS Field"*
 Oesch, P. A., Carollo, C. M., Feldmann, R., Hahn, O., Lilly, S. J., **Sargent, M. T.**, Scarlata, C., Aller, M. C., Aussel, H., Bolzonella, M., Bschorr, T., Bundy, K., Capak, P., Ilbert, O., Kneib, J.-P., Koekemoer, A. M., Kovač, K., Leauthaud, A., Le Floc'h, E., Massey, R., McCracken, H. J., Pozzetti, L., Renzini, A., Rhodes, J., Salvato, M., Sanders, D. B., Scoville, N. Z., Sheth, K., Taniguchi, Y., Thompson, D., 2010, *ApJL*, **714**, L47
- (12) *"The X-ray to Optical-UV Luminosity Ratio of X-ray Selected Type 1 AGN in XMM-COSMOS"*
 Lusso, E., Comastri, A., Vignali, C., Zamorani, G., Brusa, M., Gilli, R., Iwasawa, K., Salvato, M., Civano, F., Elvis, M., Merloni, A., Bongiorno, A., Trump, J. R., Koekemoer, A. M., Schinnerer, E., Le Floc'h, E., Cappelluti, N., Jahnke, K., **Sargent, M. T.**, Silverman, J., Mainieri, V., Fiore, F., Le Fèvre, O., Garilli, B., Iovino, A., Kneib, J.-P., Lilly, S. J., Scodreggio, M., 2010, *A&A*, **512**, A34
- (11) *"The VLA-COSMOS Perspective on the IR-Radio Relation. I. New Constraints on Selection Biases and the Non-Evolution of the IR/Radio Properties of Star Forming and AGN Galaxies at Intermediate and High Redshift"*
Sargent, M. T., Schinnerer, E., Murphy, E., Aussel, H., Le Floc'h, E., Frayer, D., Martínez-Sansigre, A., Oesch, P., Salvato, M., Smolčić, V., Zamorani, G., Brusa, M., Cappelluti, N., Carilli, C., Carollo, C. M., Helou, G., Ilbert, O., Kartaltepe, J. S., Koekemoer, A. M., Lilly, S. J., Sanders, D. B., Scoville, N. Z., 2010, *ApJS*, **186**, 341
- (10) *"Spitzer 70 and 160-micron Observations of the COSMOS Field"*
 Frayer, D. T., Sanders, D. B., Surace, J. A., Aussel, H., Salvato, M., Le Floc'h, E., Huynh, M. T., Scoville, N. Z., Afonso-Luis, A., Bhattacharya, B., Capak, P., Fadda, D., Fu, H., Helou, G., Ilbert, O., Kartaltepe, J. S., Koekemoer, A. M., Lee, N., Murphy, E., **Sargent, M. T.**, Schinnerer, E., Sheth, K., Shopbell, P. L., Shupe, D. L., Yan, L., 2009, *ApJ*, **138**, 1261
- (9) *"The Morphological Dependence of the Star Formation Activity on Stellar Mass Surface Density in zCOSMOS Galaxies at z between 0.5 and 0.9 Compared with SDSS Galaxies at z between 0.04 and 0.08"*
 Maier, C., Lilly, S.J., Zamorani, G., Scodreggio, M., Lamareille, F., Contini, T., **Sargent, M. T.**, Scarlata, C., Oesch, P., Carollo, C. M., Le Fèvre, O., Renzini, A., Kneib, J.-P., Mainieri, V., Bardelli, S., Bolzonella, M., Bongiorno, A., Caputi, K., Coppa, G., Cucciati, O., de la Torre, S., de Ravel, L., Franzetti, P., Garilli, B., Iovino, A., Kampczyk, P., Knobel, C., Kovač, C., Le Borgne, J.-F., Le Brun, V., Mignoli, M., Pello, R., Peng, Y., Perez Montero, E., Ricciardelli, E., Silverman, J. D., Tanaka, M., Tasca, L., Tresse, L., Vergani, D., Zucca, E., Abbas, U., Bottini, D., Cappi, A., Cassata, P., Cimatti, A., Fumana, M., Guzzo, L., Halliday C., Leauthaud, A., Maccagni, D., Marinoni, C., McCracken, H. J., Memeo, P., Meneux, B., Porciani, C., Pozzetti, L., Scaramella, R., Walcher, J., 2009, *ApJ*, **694**, 1099
- (8) *"Chasing Highly Obscured QSOs in the COSMOS Field"*
 Fiore, F., Puccetti, S., Brusa, M., Salvato, M., Zamorani, G., Aldcroft, T., Aussel, H., Brunner, H., Capak, P., Cappelluti, N., Civano, F., Comastri, A., Elvis, M., Feruglio, C., Finoguenov, A., Fruscione, A., Gilli, R., Hasinger, G., Koekemoer, A. M., Kartaltepe, J. S., Ilbert, O., Impey, C., Le Floc'h, E., Lilly, S. J., Mainieri, V., Martínez-Sansigre, A., McCracken, H. J., Menci, N., Merloni, A., Miyaji, T., Sanders, D. B., **Sargent, M. T.**, Schinnerer, E., Scoville, N., Silverman, J., Smolčić, V., Steffen, A., Santini, P., Taniguchi, Y., Thompson, D., Trump, J. R., Vignali, C., Urry, M., Yan, L., 2009, *ApJ*, **693**, 447
- (7) *"A Dynamical Model for Generating Eurasian Lithospheric Stress and Strain Rate Fields: Effect of Rheology and Cratons"*

- (6) *"The Evolution of the Number Density of Large Disk Galaxies in COSMOS"*
Sargent, M. T., Carollo, C. M., Lilly, S. J., Scarlata, C., Feldmann, R., Kampczyk, P., Koekemoer, A. M., Scoville, N., Kneib, J.-P., Leauthaud, A., Massey, R., Rhodes, J., Tasca, L. A. M., Capak, P., McCracken, H. J., Porciani, C., Renzini, A., Taniguchi, Y., Thompson, D. J., Sheth, K, 2007, *ApJS*, **172**, 434
- (5) *"COSMOS Morphological Classification with the Zurich Estimator of Structural Types (ZEST) and the Evolution Since $z = 1$ of the Luminosity Function of Early, Disk, and Irregular Galaxies"*
Scarlata, C., Carollo, C. M., Lilly, S. J., **Sargent, M. T.**, Feldmann, R., Kampczyk, P., Porciani, C., Koekemoer, A. M., Scoville, N., Kneib, J.-P., Leauthaud, A., Massey, R., Rhodes, J., Tasca, L., Capak, P., Maier, C., McCracken, H. J., Mobasher, B., Renzini, A., Taniguchi, Y., Thompson, D., Sheth, K., Ajiki, M., Aussel, H., Murayama, T., Sanders, D. B., Sasaki, S., Shioya, Y., Takahashi, M., 2007, *ApJS*, **172**, 406
- (4) *"The Redshift Evolution of Early-Type Galaxies in COSMOS: Do Massive Early-Type Galaxies Form by Dry Mergers?"*
Scarlata, C., Carollo, C. M., Lilly, S. J., Feldmann, R., Kampczyk, P., Renzini, A., Cimatti, A., Halliday, C., Daddi, E., **Sargent, M. T.**, Koekemoer, A. M., Scoville, N., Kneib, J.-P., Leauthaud, A., Massey, R., Rhodes, J., Tasca, L., Capak, P., McCracken, H. J., Mobasher, B., Taniguchi, Y., Thompson, D., Ajiki, M., Aussel, H., Murayama, T., Sanders, D. B., Sasaki, S., Shioya, Y., Takahashi, M., 2007, *ApJS*, **172**, 494
- (3) *"Simulating the COSMOS: The Fraction of Merging Galaxies at High Redshift"*
Kampczyk, P., Lilly, S. J., Carollo, C. M., Scarlata, C., Feldmann, R., Koekemoer, A. M., Leauthaud, A., **Sargent, M. T.**, Taniguchi, Y., Capak, P, 2007, *ApJS*, **172**, 329

Conference Proceedings

- (2) *"The Role of Environment in the Growth of Disk Galaxies"*
Sargent, M. T., Kovač, K., Carollo, C. M., Scarlata, C., Schinnerer, E., the COSMOS collaboration, 2010, ASP Conference Series, **421**, 290
- (1) *"The VLA-COSMOS Perspective of the Radio-IR Relation at $z < 1.5$ "*
Sargent, M. T., Murphy, E. J., Schinnerer, E., the COSMOS collaboration, 2009, *Bulletin of the American Astronomical Society*, **41**, 250