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LAMONT RESEARCH PROFESSOR, LAMONT DOHERTY EARTH OBSERVATORY OF THE COLUMBIA UNIVERSITY
ADJUNCT SCIENTIST, NASA GODDARD INSTITUTE OF SPACE STUDIES (GISS)
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Current position and professional experience

2019	Visiting Scientist (July 1st – 14th)	ESA – ESRIN, Frascati, Rome
2016 -	Science journalist	La Repubblica
2015 -	Lamont Research Professor	Columbia University
2015 -	Adjunct Scientist	NASA GISS
2013 – 2015	Program Director	The National Science Foundation
2013 – 2015	Associate Professor	The City College of New York
2012 – 2013	Deputy Executive Officer	The Graduate Center of CUNY
2008 – 2015	Founder and director	Cryosphere Processes Laboratory, CCNY
2008 – 2013	Assistant Professor	The City College of New York
2003 – 2008	Research Assistant	NASA Goddard Space Flight Center
2002	Visiting Scientist	Helsinki University of Technology

Education

1999 – 2003	**PhD**	Italian National Research Council (Envir. Engineering)
1989 – 1998	**'Laurea degree'**	University of Naples, Italy (Electrical Engineering)

Research Interests

- Remote sensing of the cryosphere and hydrosphere
- High latitude field measurements (both hemispheres)
- Ice sheet modeling, mass balance and dynamics
- Ice – ocean – atmosphere interaction
- Cyberinfrastructure
- Communication of scientific results
- Sea level rise and economics

Submitted

[121] Boghosian, L. H Pitcher, Laurence C. Smith, Elena Kosh, Patrick M. Alexander, Marco Tedesco, Robin E. Bell, Ice surface prompts linear fractures weakening ice shelf by estuarine flow on ice surface Submitted to *Science*

[120] Mortimer, C., Mudryk, L., Derksen, C., Luojus, K., Brown, R., Kelly, R., and Tedesco, M.: Evaluation of long term Northern Hemisphere snow water equivalent products, The Cryosphere Discuss., https://doi.org/10.5194/tc-2019-258, in review, 2019.

[119] Wang, S., Tedesco, M., Alexander, P., Xu, M., and Fettweis, X.: Quantifying spatiotemporal variability of ice algal blooms and the impact on surface albedo in southwest Greenland, The Cryosphere Discuss., https://doi.org/10.5194/tc-2019-226, in review, 2019.

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[117] Ingo Sasgen, Bert Wouters, Alex S. Gardner, Marco Tedesc, Michalea King, Felix W. Landerer, Christoph Dahle, GRACE-FO detects highly variable ice losses in Greenland, submitted to *Nature*

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[115] Matthew G. Cooper, Laurence C. Smith, Asa K. Rennermalm, Marco Tedesco, Rohi Muthyala, Sasha Z. Leidman, Samiah E. Moustafa, and Jessica V. Fayne First spectral measurements of light attenuation in Greenland Ice Sheet bare ice suggest shallower subsurface radiative heating and ICESat-2 penetration depth in the ablation zone, the Cryosphere Discussion

[114] Tedesco, M. and Fettweis, X.: Unprecedented atmospheric conditions (1948–2019) drive the 2019 exceptional melting season over the Greenland ice sheet, The Cryosphere Discuss., https://doi.org/10.5194/tc-2019-254, in review, 2019.

[113] Tedesco, M., McAlpine, S., and Porter, J.: Exposure of properties to the 2018 Hurricane Florence flooding: an expanding bull's-eye perspective, Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2019-209, in review, 2019.

Published Papers

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[111] Nusbaumer, J. N., Alexander, P. M., LeGrande, A. N., and Tedesco, M. (2019) Spatial shift of moisture sources over Greenland related to enhanced Arctic warming, *Geophysical Research Letters,* 46, doi: 10.1029/2019GL084633

[110] Alexander, P. M., M. Tedesco, L. Koenig, and X. Fettweis. (2019) Evaluating a regional climate model simulation of Greenland ice sheet snow and firn density for improved surface mass balance estimates, *Geophysical Research Letters*, 46. doi: 10.1029/2019GL084101

[109] M. Tedesco, Op-ed: The Beauty of Greenland's Ice Sheet and Why It's Disappearing, https://www.pbs.org/wnet/peril-and-promise/2019/10/marco-tedesco-greenland-ice-sheet/

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[54] M. Tedesco, A. Loew, T. Markus, R. Reichle, A radiance based assimilation framework for the retrieval of SWE and snow depth from AMSR-E and SSM/I data, IGARSS 2008, Boston, Invited
[55] M. Tedesco, Active and passive microwave remote sensing of snow at large spatial scales, IGARSS 2008, Boston, Invited

[56] R. E.J. Kelly, M. Tedesco, J. L. Foster, Correcting brightness temperature observations over snow from NASA's Advanced Microwave Scanning Radiometer –IGARSS 2008, Boston , Invited
[57] M. Tedesco – Speaker of the panel: Using Climate Change to Reintegrate the Humanities and Sciences and Reterritorialize Economy and Education at The Culture of Climate Change Colloquium - March 10-11, 2011 at the Graduate Center by the Nature Ecology Society, NY, NY (Invited)
[58] M. Tedesco, Ian Willis, Patrick Alexander and Alison Banwell, Measurements of supraglacial lake drainage and surface streams over West Greenland and effects on ice dynamics, AGU Fall 2011 meeting, San Francisco, December 4 – 9, 2011
[59] M. Tedesco, Supraglacial lakes over the Greenland ice sheet, Sixth Magrann Conference, Rutgers University, New Jersey, April 14 – 15, 2012
[60] M. Tedesco, The new NASA AMSR-E prototype operational SWE algorithm, NASA Goddard Space Flight Center, May 14th 2012
[61] M. Tedesco, Darker, wetter and faster: recent and projected trends of mass balance over the Greenland ice sheet and linkages to surface and sub-surface processes, University of College London March 19th, 2012
[62] M. Tedesco, Ice sheet surface hydrology features in the context of urban ecology, the City College of New York, Urban Ecology Series, March 13th 2012
[63] M. Tedesco, Darker, wetter and faster: causes and implications of recent trends of mass balance over the Greenland ice sheet, NASA GISS, February 3rd, 2012
[64] M. Tedesco, Ian Willis, Patrick Alexander and Alison Banwell, Measurements of supraglacial lake drainage and surface streams over West Greenland and effects on ice dynamics, AGU Fall 2011 meeting, San Francisco, December 4 – 9, 2011
[65] A. E. Azar, N. Shahroudi, A. Rahman, R. Khanbilvardi, and M. Tedesco, Geo-statistical Analysis of Snow Grain Size Derived by HUT Snow Emission Model, IGARSS 2007, Barcelona, Spain, July 2007
[66] B. Stankov, D. Cline and M. Tedesco, Empirical SWE Retrieval from the Airborne PSR and Ground-Based Snow Pit Measurements, and the HUT Model Comparison during the Cold Land Processes Experiment over the Northern Colorado Rocky Mountains, IGARSS 2007, Barcelona, Spain, July 2007 (Invited)
[67] M. Tedesco, J. Stroeve, J. Box and K. Steffen, Assessment of space-borne passive microwave detected melting events and visible albedo changes over the Greenland Ice Sheet, EGU 2007, Vienna, Austria, 15 – 20 April 2007
[68] M. Tedesco and T. Markus, Retrieval of snow parameters from AMSR-E brightness temperatures using a physically-based simplified approach: first results, EGU 2007, Vienna, Austria, 15 – 20 April
[69] M. Tedesco, An improved technique for snowmelt detection (1978 – 2006) over the Greenland Ice Sheet using microwave brightness temperature daily variations, EGU 2007, Vienna, Austria, 15 – 20 April 2007
[70] M. Tedesco and A. Kokhanovsky, Grain size retrieval from MODIS data using a semi-analytical retrieval algorithm (SARA) and a fractal snow grain model, 2007, Vienna, Austria, 15 – 20 April 2007
[71] M. Tedesco and E.J. Kim, Temporal trend of microwave brightness temperatures spatial heterogeneity at DOME C, Antarctica, EGU 2007, Vienna, Austria, 15 – 20 April 2007
[72] M. Tedesco, Melting over the Greenland ice sheet in 2006 and the 2003 – 2006 melting anomaly from space-borne microwave data, ARCUS Annual Meeting and Arctic Forum Embassy of Sweden and National Association of Home Builders Conference Center 23-24 May 2007
[73] M. Tedesco, Recent achievements, future plans and directions in Remote Sensing of Snow and Ice sheet, City University of New York, March 30, 2007
[74] M. Tedesco, Atmospheric Influences on AMSR-E Measurements at 19.35 and 37 GHz, March 30, 2007, City University of New York, March 30, 2007
[75] M. Tedesco, E. Kim, J. Wang, J. Miller, T. Markus, Microwave Remote Sensing of snow on land: recent results and prospects, LIS Science meeting, NASA Goddard Space Flight Center, March 7, 2007
[76] B. Boba Stankov, Donald Cline, M. Tedesco, Empirical SWE Retrieval Using Airborne Microwave and in Situ Snow Measurements, IEEE International Geoscience and Remote Sensing Symposium, Barcelona, Spain, 23 - 27 July, 2007
[77] Edward Kim, M. Tedesco, Snow Microwave Modeling and Retrievals: Performance, Resolution, and Evolution , IEEE International Geoscience and Remote Sensing Symposium, Barcelona, Spain, 23 - 27 July, 2007
[78] Konstantinos M. Andreadis, M. Tedesco, Dennis P. Lettenmaier, Eric F. Wood , Effective snow properties for brightness temperature estimation using coupled hydrologic and electromagnetic models, IEEE International Geoscience and Remote Sensing Symposium, Barcelona, Spain, 23 - 27 July, 2007
[79] Amir E Azar, Narges Shahroudi, Atiq Rahman, Reza Khanbilvardi, Hosni Ghedira, M. Tedesco , Geo-statistical Analysis of Snow Grain Size Derived by HUT Snow Emission Model, IEEE International Geoscience and Remote Sensing Symposium, Barcelona, Spain, 23 - 27 July, 2007
[80] B. B. Stankov, Albin J. Gasiewski, Don Cline, Bob Wweber, Garr Wick, Richard Kelly, Marian Klein, M. Tedesco , Small Scale Spatial Variability of Snow Cover during the 2002-2003 CLPX, IEEE International Geoscience and Remote Sensing Symposium, Barcelona, Spain, 23 - 27 July, 2007
[81] M. Tedesco and K. Steffen, The 2006 melt extent and intensity over the Greenland ice sheet from passive microwave observations, IUGG Conference, Perugia , July 2 – 13, 2007
[82] M. Tedesco - Melting snow in Greenland and Antarctica from satellite data: extreme events and updated trends, AGU General Meeting, San Francisco, 8 – 13 December 2007
[83] R. E. J. Kelly, J. Foster, M. Tedesco, Estimating SWE globally using AMSR-E observations: validation and algorithm development, AGU General Meeting, San Francisco, 8 – 13 December 2007
[84] M. Tedesco, Melting snow in Greenland and Antarctica from satellite data: extreme events and updated trends, Climate Information: Responding to User Needs – Bringing observations, Data Management, Modeling, and Prediction into the Decision Process October 22 – 23, 2007 , University of Maryland, College Park, MD, USA
[85] M. Tedesco, Remote Sensing Perspectives, Eurasian Hydroclimatology Meeting, University of Fairbanks, Alaska, November 12 – 14, 2007

[86] M. Tedesco, R. Armstrong, M. Brodzik, K. Steffen, W. Abdalati and X. Fettweiss, Melting snow in Greenland and Antarctica from space-borne microwave data and climate model results, MICRORAD 2008, Firenze, March 11 – 14 , 2008

[87] M. Tedesco, J. L Foster and R. E. J. Kelly, Assessing dynamic approaches in snow water equivalent/snow depth retrieval from AMSR-E brightness temperatures, MICRORAD 2008, Firenze, March 11 – 14 , 2008

[88] M. Tedesco, Melting in Antarctica from space-borne microwave data: updated trends, European Geosciences Union General Assembly, Vienna, April 13 – 18, 2008

[89] M. Tedesco, A. Loew, T. Markus, R. Reichle, toward A radiance based assimilation framework for the retrieval of SWE and snow depth from AMSR-E and SSM/I data, European Geosciences Union General Assembly, Vienna, April 13 – 18, 2008

[90] M. Tedesco, M. Serreze and X. Fettweis, The causes of Greenland's Record Surface Melt in 2007, European Geosciences Union General Assembly, Vienna, April 13 – 18, 2008

[91] Lyapustin, A.; Wang, Y.; Tedesco, M.; Kokhanovsky, A., Mapping Snow Grain Size over Greenland from MODIS, European Geosciences Union General Assembly, Vienna, April 13 – 18

[92] X. Fettweis, H. Gallée, M. Tedesco, E. Hanna, M. Erpicum, A record negative Greenland ice sheet surface mass balance rate in 2007, Accepted for the European Geosciences Union General Assembly, Vienna, April 13 – 18, 2008

[93] M. Tedesco, A. Loew, T. Markus, R. Reichle, A radiance based assimilation framework for the retrieval of SWE and snow depth from AMSR-E and SSM/I data, IGARSS 2008, Boston, Invited

[94] M. Tedesco, Active and passive microwave remote sensing of snow at large spatial scales, IGARSS 2008, Boston, Invited

[95] R. E.J. Kelly, M. Tedesco, J. L. Foster, Correcting brightness temperature observations over snow from NASA's Advanced Microwave Scanning Radiometer –IGARSS 2008, Boston , Invited

[96] M. Tedesco, From snow depth in Colorado to melting snow in Greenland: recent advances in microwave remote sensing of snow, January 23, 2008, NASA Goddard Space Flight Center, Greenbelt, MD, USA

[97] M. Tedesco, R. Kelly, J. Foster, J. Wang, E. J. Kim, T. Markus and J. Miller, Maintenance, validation and improvement of the NASA AMSR-E product, 65th Annual meeting of the Eastern Snow Conference, Vermont, USA, May 28 – 30, 2008

[98] M. Tedesco, Snowmelt over Antarctica (1979 – 2008) from spaceborne passive microwave data and an improved physically-based threshold algorithm: a closer look to the Antarctic Peninsula, Antarctic Peninsula Climate Change meeting (APCC 5), June 24 – 26, 2008, University of Irvine, Irvine, CA

[99] M. Tedesco, R. Kelly, J. Foster, E. Kim, T. Markus, R. Reichle, A. Loew, J. Wang, Uncertainties assessment in the AMSR-E SWE product: atmospheric effects and grain size sensitivity, AMSR-E Science Team Meeting, Telluride, CO, July 14 – 16, 2008

[100] M. Tedesco and P. Narvekar, Validation, assessment and refinement of the NASA AMSR-E Snow Water Equivalent Product, Eastern Snow Conference, The 66th Annual Meeting of the Eastern Snow Conference ,Lake, Ontario, Canada 9-11 June 2009

[101] M. Tedesco , H. P. Marshall, E. Josberger, N. Steiner and X. Xu, The 2009 Ground Passive and Active Snow (GAPS) Experiment , The 66th Annual Meeting of the Eastern Snow Conference, Lake, Ontario, Canada, 9-11 June 2009

[102] M. Tedesco, G. Stovall and G. Green , Supraglacial Lakes over the Greenland Ice Sheet from Visible and NIR Satellite Data: from data visualization to volume change analysis analysis, The 66th Annual Meeting of the Eastern Snow Conference Niagara on the Lake, Ontario, Canada, 9-11 June 2009

[103] N. Steiner and M. Tedesco, Snowmelt Detection Over Antarctic Ice Shelves by means of a wavelet-based approach applied to space-borne microwave active measurements. The 66th Annual Meeting of the Eastern Snow Conference Niagara on the Lake, Ontario, Canada 9-11 June 2009

[104] M. Tedesco, 2009 updated results and activities, The Program for Arctic Regional Climate Assessment, Sept. 30 – Oct. 1, 2009

[105] M. Tedesco, Toward an improved and validated AMSR-E SWE product: fieldwork, land models and meteorological data, Joint AMSR Science Team Meeting 25-26 June 2009 Washington, D.C.

[106] M. Tedesco, P. Narvekar, N. Steiner, H. P. Marshall, E. Josberger and X. Xu, Toward a new AMSR-E SWE algorithm ? Fieldwork activities, and algorithm development, Fall 2009 AGU, San Francisco , December 14 – 28, 2009

[107] G. Stovall and M. Tedesco, Comparison between ASTER and MODIS Melt Pond Surface and Volume Estimates and Trends on the Western Margin of Greenland, Fall 2009 AGU, San Francisco , December 14 – 28, 2009

[108] Andrew J. Monaghan and M. Tedesco, An updated Antarctic melt record through 2009 and its linkages to high-latitude and tropical climate variability, Fall 2009 AGU, San Francisco , December 14 – 28, 2009

[109] M. Tedesco, H. P. Marshall, E. Josberger, N. Steiner and X. Xu, The 2009 Ground Passive and Active Snow (GAPS) Experiment, Fall 2009 AGU, San Francisco , December 14 – 28, 2009

[110] M. Tedesco, N. Steiner, H. P. Marshall and P. Narvekar, Assessment and development for SWE/snow depth retrieval from active and passive microwave data, Workshop on Cold Regions Hydrology, Innsbruck, on 28-30 April 2010

[111]M. Tedesco, P. Narvekar, N. Steiner, H. P. Marshall, E. Josberger and X. Xu, Toward a new AMSR-E SWE algorithm ? Fieldwork activities, and algorithm development, accepted for the European Geosciences Union General Assembly 2010, Vienna, Austria, 02 – 07 May 2010

[112] M. Tedesco, H. P. Marshall, E. Josberger, N. Steiner and X. Xu, The 2009 Ground Passive and Active Snow (GAPS) Experiment, European Geosciences Union, General Assembly 2010 Vienna, Austria, 02 – 07 May 2010

[113] G. Stovall and M. Tedesco, Comparison between ASTER and MODIS Melt Pond Surface and Volume Estimates and Trends on the Western Margin of Greenland, European Geosciences Union General Assembly 2010 Vienna, Austria, 02 – 07 May 2010

[114] M. Tedesco, H. P. Marshall, N. Steiner , E. Josberger, X. Xu, S. Havens, T. Painter and M. Skiles, The 2009 and 2010 Ground Passive and Active Snow GAPS) Experiments, 67th Annual Meeting of the Eastern Snow Conference Jiminy Peak Mountain Resort, Hancock, MA, June 8-10, 2010

[115] M. Tedesco, P. Narvekar, James Foster, R. Kelly and B. Choudhury, Toward an improved NASA AMSR-E SWE product: Validation and refinement, accepted for IGARSS 2010, Honolulu , Hawaii, July 25 – 30 , 2010

[116] M. Tedesco, H. P. Marshall, N. Steiner, E. Josberger and X. Xu. Combining active and passive microwave data for snow parameters retrieval with multi-sensor snow properties measurements: the GAPS09 and GAPS10 experiments, accepted for IGARSS 2010, Honolulu , Hawaii, July 25 – 30 , 2010

[117] M. Tedesco, P. Narvekar, R. Kelly, J. Foster and R. Reichle, Assessment and development of the NASA AMSR-E SWE algorithm, 11th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment, March 1-4, 2010, Washington DC, USA

[118] M. Tedesco and A. J. Monaghan, An updated Antarctic melt record through 2009 and its linkages to high-latitude and tropical climate variability, 11th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment, March 1-4, 2010, Washington DC, USA

[119] M. Tedesco, H. P. Marshall, N. Steiner, E. Josberger and X. Xu, The 2009 Ground Passive and Active Snow (GAPS) Experiment, 11th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment, March 1-4, 2010, Washington DC, USA

[120] M. Tedesco, Xavier Fettweis, Mary Brodzik, Richard Armstrong, Matt Savoie, Joan Ramage, Melting trends (1979 - 2009) over the Arctic and links to climate variability, State of the Arctic, 16 – 19 March 2010, Miami, Florida, USA

[121] M. Tedesco, Nicholas Steiner, Konrad Steffen, Xavier Fettweis, Balazs Fekete, Jason Gulley, and Nicholas Bayou, Hydrofracture analysis and spatio-temporal evolution of a supraglacial lake in West Greenland from observational and modeling tools, EGU 2011 – April 03 – 08 , 2011, Vienna

[122] M. Tedesco, Hans-Peter Marshall, Xavier Fettweis, Nicholas Steiner, and Patrick Alexander, Assessment of modeled surface mass balance estimates over the Greenland ice sheet using in-situ observations and remote sensing data, EGU 2011 – April 03 – 08 , 2011, Vienna

[123] Xavier Fettweis, Michiel van den Broeke, Willem Jan van de Berg, Marco Tedesco, Alexandre Belleflamme, Bruno Franco, and Michel Erpicum, Explanation of the extreme low surface mass balance over the Greenland ice sheet in 2010 with the help of a regional climate model and a circulation type classification, EGU 2011 – April 03 – 08 , 2011, Vienna

[124] Marco Tedesco, Xavier Fettweis, Michiel van den Broeke, Roderik van de Wal, Paul Smeets, Willem Jan van de Berg, Mark Serreze, and Jason Box, The role of albedo and accumulation in the 2010 melting record in Greenland, EGU 2011 – April 03 – 08 , 2011, Vienna

[125] Nick Steiner and Marco Tedesco, An enhanced resolution QuikSCAT derived Antarctic melt record (1999-2009): development and evaluation of wavelet-based methods, EGU 2011 – April 03 – 08 , 2011, Vienna

[126] Xavier Fettweis, Marco Tedesco, and Michiel van den Broeke, Assimilation of the 1979-2009 microwave satellite data into the regional climate MAR model for studying the Greenland ice sheet melt extent, EGU 2011 – April 03 – 08 , 2011, Vienna

[127] M. Tedesco, Toward a new AMSR-E SWE operational algorithm, EGU 2011 – April 03 – 08 , 2011, Vienna

[128] Marco Tedesco, Christine Foreman, Nick Steiner, and Tristan Schwartzman, Preliminary results on the comparison between spectral, physical and chemical properties of West Greenland and Antarctica (Dry Valleys) cryoconites, EGU 2011 – April 03 – 08 , 2011, Vienna

[129] Paul Holland, Hugh Corr, Hamish Pritchard, David Vaughan, Adrian Jenkins, Robert Arthern, Marco Tedesco, and Josefino Comiso, The firn air content of Larsen Ice Shelf, EGU 2011 – April 03 – 08 , 2011, Vienna

[130] M. Tedesco, *Climate change at the poles,* Digital culture and climate change at the poles, Interdisciplinary Climate Change Seminar Cycle, CCNY, November 24, 2011

[131] M. Tedesco, *The 2011 expedition to Greenland,* The Graduate Center of the City University of New York, November 17, 2011

[132] M. Tedesco, The New AMSR-E operational algorithm, AGU Fall 2011 meeting, San Francisco, December 4 – 9, 2011 (poster)

[133] Nick Steiner and Marco Tedesco, An enhanced resolution QuikSCAT derived Antarctic melt record (1999-2009): development and evaluation of wavelet-based methods, AGU Fall 2011 meeting, San Francisco, December 4 – 9, 2011 (poster)

[134] P. Alexander, M. Tedesco, N. Steiner , H.-P. Marshall, S. Luthcke and X. Fettweis, Identification of accumulation, density and grain size bias in the regional climate model MAR over the Greenland ice sheet using in-situ and remotely sensed data, AGU Fall 2011 meeting, San Francisco, December 4 – 9, 2011 (poster)

[135] A. Banwell, I. Willis, N. Arnold, M. Tedesco, A. Ahlstrom, Modelling Melt, Surface Routing, & Lake Filling in the Paakitsoq Region, W. Greenland, International Glaciological Society British Branch Meeting September 7th and 8th, 2011

[136] I. Willis, M. Tedesco, A. Banwell, N. Arnold and A. Ahlstrøm, Filling and draining of surface lakes on the Greenland Ice Sheet, International Glaciological Society British Branch Meeting September 7th and 8th, 2011

[137] M. Tedesco, I. Willis, M. Hoffman, A. Banwell and P. Alexander, Measurements of supraglacial lake drainage and surface streams over Greenland and effects on ice dynamics, PARCA Meeting, January 23rd 2012, NASA Goddard Space Flight Center

[138] M. Tedesco, N. Steiner, P. Alexander and X. Fettweis, Mapping Melting over the Greenland and Antarctica ice sheets from microwave spaceborne observations and model outputs (1958 – 2011), AAG Annual Meeting: NEW YORK 2012, February 24 – 28

[139] M. Tedesco, Preliminary assessment of SWE and snow depth retrievals from enhanced spatial resolution spaceborne microwave data, AAG Annual Meeting: NEW YORK 2012, February 24 – 28

[140] M. Tedesco, I. Willis, M. Hoffman, A. Banwell and P. Alexander, Ice dynamic response to slow and fast supraglacial lake drainage in Greenland, INTERNATIONAL GLACIOLOGICAL SOCIETY International

Symposium on Glaciers and ice sheets in a warming climate, University of Alaska Fairbanks, Alaska, USA 24 - 29 June 2012

[141] M. Tedesco, Darker, wetter and faster: recent and projected trends of mass balance over the Greenland ice sheet and linkages to surface and sub-surface processes, University of Cambridge, March 21st, 2012 Invited

[142] M. Tedesco, The melting of the Greenland ice sheet from satellite data, climate models and ground observations: past, current and future trends, Planet Under Pressure Conference, London, March 26th – 29th, 2012

[143] M. Tedesco, Snow and ice scientific activities at the Cryospheric Processes Laboratory, NOAA CREST Advisory Meeting, The City College of New York, June 8th, 2012

[144] S. V. Nghiem, D. K. Hall, T. L. Mote, M. Tedesco, M. Albert, K. Keegan, C. A. Shuman, N. E. DiGirolamo, and G. Neumann,The Extreme Melt Event of 2012 across the Greenland Ice Surface: A Sudden Anomaly since the Medieval Warm Period, Annual GSA meeting, 4 – 7 November, 2012

[145] M. Tedesco, J. Deems, T. Datta, P. Alexander, Combining fractals theory and enhanced spatial resolution remote sensing data for studying scale processes of SMB quantities over the Greenland and Antarctica ice sheets, AGU Fall Meeting, December 9 – 13, 2013

[146] M. Tedesco, The Polar Cyberinfrastructure Program at the National Science Foundation, AGU Fall Meeting, December 9 – 13, 2013

[147] Laurence C Smith, Vena Chu, Kang Yang, Asa K Rennermalm, Carl J Legleiter, Colin J Gleason, Lincoln H Pitcher, Samiah Moustafa, Brandon T Overstreet, Alberto Behar, Marco Tedesco, Richard R Forster, Supraglacial meltwater runoff from the Greenland ice sheet, AGU Fall Meeting, December 9 – 13, 2013

[148] M. Navari, S. M. Bateni, S. Margulis, P. Alexander, M. Tedesco, Estimating Greenland Ice Sheet Surface Mass balance Using a Novel Data Assimilation Framework: An Observing System Simulation Experiment, AGU Fall Meeting, December 9 – 13, 2013

[149] P. Alexander, M. Tedesco, S. Luthcke, N. Schlegel, E. Larour, X. Fettweis, Validating the Surface Mass Balance spatiotemporal variability in a regional climate model over Greenland using an ice sheet model and GRACE, AGU Fall Meeting, December 9 – 13, 2013

[150] M. Tedesco, J. Perl, I. Saltz, E. Ham, V. Golosiy, P. Alexander, T. Datta, A. Radovsky, F. Quiroz, G. Lewkowic, The PolarSEEDS project: communicating Greenland melting through visualization and sonification, AGU Fall Meeting, December 9 – 13, 2013

[151] Rajashree Datta, Marco Tedesco, Marie Dorleans, Cecile Agosta, Patrick M Alexander, Xavier Fettweis, Evaluating the impact of blowing snow on surface mass and energy balance outputs of the Modèle Atmosphérique Régionale (MAR) regional climate model over Antarctica (2001 – 2010), AGU Fall Meeting, December 9 – 13, 2013

[152] M. Tedesco, Communicating Greenland climate change through sonifications and visualization, Invited talk at Visualized conference, New York, January 2014

[153] M. Tedesco, From puddles to the ocean: melting over Greenland from a multi-scale integrated perspective, Invited talk at the Penn State University, May 2014

[154] M. Tedesco, Communicating Greenland climate change through sonifications and visualization, Invited talk at the Museum of Art in Rutgers, New Jersy, February 2014

[155] M. Tedesco, NASA operational approaches and exploratory activities for improving SWE estimates and snowmelt detection from passive microwave observations, SNOWPEX meeting, College Park, MD, Sept. 2014

[156] Allen Pope, Ted Scambos, Mahsa Moussavi, Marco Tedesco, and Mike Willis, Estimating Supraglacial Lake Depth with Landsat 8 AGU Fall Meeting, December14 – 18, 2014

[157] Green, G., M. Tedesco, P. Alexander , X. Fettweis, and T. Datta, Publishing Earth Science Data with Python: A Case Study with Regional Climate Model Output, AGU Fall Meeting, December14 – 18, 2014

[158] Michael G. Brown and M. Tedesco, Seasonal and Intra-Seasonal Variability of Surface Streams Over the West Greenland Ice Sheet from High Resolution Satellite Optical Data., AGU Fall Meeting, December14 – 18, 2014

[159] M. Tedesco and J. Stroeve, Spaceborne estimated long-term trends (1980s – 2013) of albedo and melting season length over the Greenland ice sheet and linkages to climate drivers , AGU Fall Meeting, December14 – 18, 2014

[160] J.R Mioduszewski, A. K. Rennermalm, J. Stroeve, M. Tedesco, D.A. Robinson, Arctic sea ice extent and Greenland ice sheet surface climate co-variability investigated with self-organizing maps and singular value decomposition, AGU Fall Meeting, December14 – 18, 2014

[161] T. Mote, M. Tedesco, EXTREME GREENLAND BLOCKING EVENTS AND THEIR IMPACT ON SUMMER RUNOFF ACROSS THE GREENLAND ICE SHEET, AGU Fall Meeting, December14 – 18, 2014

[162] Erik U. Noble, Marco Tedesco, James Booth, Åsa Rennerlmalm, Julienne Stroeve, Xavier Fettweis, Patrick Alexander, Investigating the impact of sea ice concentration extremes on atmospheric moisture transport and low-level winds over Greenland and surrounding seas, AGU Fall Meeting, December14 – 18, 2014

[163] Orantes, Erik J. , Kenyon, Patricia M., Alexander, Patrick M. and Tedesco, Marco, HIGH FREQUENCY SEISMIC WAVES RECORDED BY THE REGIONAL GREENLAND ICE SHEET MONITORING NETWORK (GLISN) DURING THE DRAINAGE OF A SUPRAGLACIAL LAKE, AGU Fall Meeting, December14 – 18, 2014

[164] Patrick M. Alexander, Lora S. Koenig, Marco Tedesco, Rajashree Datta, Xavier Fettweis, Assessment of Regional Climate Model-Simulated Snow Density Over the Greenland and Antarctic Ice Sheets Using In-Situ Measurements, AGU Fall Meeting, December14 – 18, 2014

[165] R. Datta, M. Tedesco, X. Fettweis, H. Gallee, J. Booth, Regional Patterns of Blowing Snow Dynamics on the Antarctic Ice Sheet from the *Modèle Atmosphérique Régionale* (MAR), Assessed with In Situ and Remote Sensing data (2000-2011), AGU Fall Meeting, December14 – 18, 2014

[166] A. K. Rennermalm, M. Tedesco, T. Mote, I. Overeem, Greenland ice sheet meltwater export and river discharge, AGU Fall Meeting, December14 – 18, 2014

[167] M. Tedesco, The darkening of the Greenland ice sheet, NASA GISS, March 21, 2015
[168] Å. K. Rennermalm, M. Tedesco, T. Mote, I. Overeem, A. P. B. Mikkelsen, B. Hasholt, Title: Greenland Ice Sheet Meltwater Export and River Discharge, Climate days, Ilulissat, Greenland, June 3rd, 2015
[169] M. Tedesco, the Darkening of the Greenland ice sheet, Climate days, Ilulissat, Greenland, June 3rd, 2015
[170] P. Alexander, L.S. Koenig, R. Datta, M. Tedesco, S.R.M. Ligtenberg, X. Fettweis, M.R. van den Broeke, Evaluation of regional climate model and firn model simulations of Antarctic ice sheet snow and firn density using in situ data. WAIS meeting, September 2015
[171] M.Tedesco, R.E. Bell, I. Das, E. Hanna, P.M. Alexander, L. Koening, Processes Controlling the Surface Mass Balance of the Greenland Ice Sheet for Improving Mass Balance Estimates: Outcomes from a Community Workshop, AGU Fall Meeting, December12 – 16, 2016
[172] A. K. Rennermalm, M. Tedesco, L.C. Smith, L.H. Pitcher, T.L. Mote, P.L. Yager, S. Moustafa, M.G. Cooper, D. van As, B. Hasholt, A.B. Mikkelsen, Understanding Greenland Ice Sheet Runoff Losses, AGU Fall Meeting, December12 – 16, 2016
[173] M. Tedesco, P.M. Alexander, K. Briggs, M. Linares, T.L.Mote, Hyperspectral, photogrammetric and morphological characterization of surface impurities over the Greenland ice sheet from remote sensing observations, AGU Fall Meeting, December12 – 16, 2016
[174] S.de la Peña, I. Howat, A. Behar, S.F. Price, J. Thanga, J.M. Crowell, S. Huseas, M. Tedesco, Continuous measurements of surface mass balance, firn compaction, and meltwater retention in Greenland for altimetry validation, AGU Fall Meeting, December12 – 16, 2016
[175] C. Florentine, J. Harper, J. Johnson, T. Meierbachtol, M. Tedesco, Using Greenland Ice Sheet ablation zone radiostratigraphy to test modern data against century-averaged steady state conditions, AGU Fall Meeting, December12 – 16, 2016
[176] P.M. Alexander, L. Koenig, M. Tedesco, K. Munneke, X. Fettweis, S. Ligtenberg, B. Noel, M.R van den Broeke, C. Miège, Modeling Greenland Ice Sheet Snow and Firn Densities: Role of Dry Snow Density, Liquid Water, and Model Setup, AGU Fall Meeting, December12 – 16, 2016
[177] S. de la Peña, I. Howat, A. Behar, S.F. Price, J. Thanga, J.M. Crowell, S. Huseas, M. Tedesco, Continuous measurements of surface mass balance, firn compaction, and meltwater retention in Greenland for altimetry validation, AGU Fall Meeting, December12 – 16, 2016
[178] R.E. Bell, W. Chu, J. Kingslake, I. Das, M. Tedesco, K.J. Tinto, C.J. Zappa, M. Frezzotti, Persistent Surface River on Nansen Ice Shelf Drains Meltwater Preventing Collapse for Decades, AGU Fall Meeting, December12 – 16, 2016
[179] S. Moustafa, A.K. Rennermalm, M. Tedesco, T.L. Mote, L. Koenig, L.C. Smith, B. Hagedorn, I. Overeem, R.S. Sletten, A.B. Mikkelsen, B. Hasholt, D.van As, D.K. Hall, Characterizing West Greenland ice sheet runoff losses from modeled and measured data, AGU Fall Meeting, December12 – 16, 2016
[180] P.M. Kenyon, E.J. Orantes, S. Grynewize, M. Tedesco, Low Velocity Seismic Waves Produced by Stick-Slip Processes During the Drainage of Two Supraglacial Lakes in Greenland, AGU Fall Meeting, December12 – 16, 2016
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[182] C.E. Florentine, J.T. Harper, J.V. Johnson, T.W. Meierbachtol, M. Tedesco, Using Greenland Ice Sheet ablation zone radiostratigraphy to test modern data against century-averaged steady state conditions, AGU Fall Meeting, December12 – 16, 2016
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[184] M. Tedesco, Snow science activities of the AMSR-E team, *AMSR Science Team Annual Meeting,* Sept. 24, 2017, LDEO
[185] M. Tedesco, Initial Activities of High Mountain Asia Project at LDEO, NASA HIMAT 1st meeting, NASA GSFC, November 30th, 2016
[186] K. Miles, C. Benedek, M. Tedesco and I. Willis, Analysis of the Greenland Ice Sheet's surface hydrology using Synthetic Aperture Radar imagery ,European Geophysical Union Society EGU meeting, Vienna, Austria, April 20 – 24, 2016
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[188] M. Tedesco, The Greenland ice sheet and Arctic amplification, University of Leeds, January 2016
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[190] M. Tedesco, communicating climate change through sonification and data visualization, National Academy of Sciences, January, 2016
[191] T. Mote, K. Arrigo, R. Castelao, A. Rennermalm, M. Tedesco, P. Yager, H. Luo, and G.van Dijken, The Impact of Extreme Melt on Ocean Stratification and Productivity near West Greenland, PARCA Meeting, NASA GSFC, January 2016
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[198] M. Tedesco , An Arctic Tango: atmospheric and surface processes modulating the mass balance of the Greenland ice sheet, University of Washington, Seattle, February 2017

[199] P.M. Alexander, L.S. Koenig, M. Tedesco, P. Kuipers Munneke, X. Fettweis, S.R.M. Ligtenberg, B. Noël, M.R. van den Broeke, C. Miège , Evaluating and testing climate model simulations of Greenland ice sheet snow and firn densities,The annual international arctic workshop 2017, 23-35 March 2017 (Thursday - Saturday) Buffalo, New York

[200] R. Datta, Tedesco, M., Agosta C., Fettweis, X., Kuippers-Munneke, P., Assessment of foehn and temperature-based melt patterns over the Larsen C Ice Shelf as simulated by the MAR regional climate model; AGU 2017, December 11 - 15, 2017, New Orleans

[201] Alexandra Boghosian, Robin E. Bell, Sarah Child, Marco Tedesco, Jonathan Kingslake, Oleg Alexandrov, Scott McMichael, Endmembers of ice shelf melt; AGU 2017, December 11 - 15, 2017, New Orleans

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[208] Asa Rennermalm, Regine Hock, Marco Tedesco, Giovanni Corti, Federico Covi, Clement Miege, Jonathan Kingslake, Sasha Leidman, Steven Munsell, Spatial variability of meltwater refreezing in west Greenland ice sheet firn, AGU 2017, December 11 - 15, 2017, New Orleans

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Rennerlmalm, Robin Bell, Edward Hanna, and Von Walden, Linkages between atmospheric circulation and mass partitioning over the Greenland ice sheet, EMS Annual Meeting Abstracts Vol. 14, EMS2017-317-1, 2017

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[211] M. Tedesco, MAR at the Cryosphere Processes Laboratory: a perspective on 10 years of results and achievements (invited), Grenoble, France, September 13 , 2017

[212] M. Tedesco, Warmer, wetter and darker: the changing face of the Greenland ice sheet, INTERNATIONAL GLACIOLOGICAL SOCIETY, Polar Ice, Polar Climate, Polar Change, Remote sensing and modeling advances in understanding the cryosphere, Boulder, Colorado, USA, 14-19 August 2017

[213] Marco Tedesco, Patrick Alexander, Xavier Fettweis, Thomas Mote, Asa Rennerlmalm, Edward Hanna, Von Walden, Robin Bell, Scott Luthcke, The role of atmospheric forcing on recent changes of Greenland mass-loss partitioning trends, INTERNATIONAL GLACIOLOGICAL SOCIETY, Polar Ice, Polar Climate, Polar Change, Remote sensing and modeling advances in understanding the cryosphere, Boulder, Colorado, USA, 14-19 August 2017

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[216] M. Tedesco, The melting of the Greenland ice sheet and sea level rise: processes, current estimates and future projections, University of Washington, Seattle (Invited)

[217] Patrick M. Alexander, Allegra N. LeGrande, Elizabeth Fischer, Marco Tedesco, Maxwell Kelley, Xavier Fettweis, Samiah E. Moustafa, Gavin A. Schmidt, Impact of elevation classes and ice sheet surface

processes on Greenland surface mass balance in the NASA GISS ModelE2 GCM, Regional Sea Level Changes and Coastal Impacts, 10-14 July 2017, Columbia University, New-York (NY) - USA

[218] M. Tedesco, P. Alexander, X. Fettweis, S. Luthke, T. Mote, A. Rennelmalm and E. Hanna, The role of atmospheric forcing on recent changes in Greenland mass loss partitioning, Regional Sea Level Changes and Coastal Impacts, 10-14 July 2017, Columbia University, New-York (NY) - USA

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[220] M. Tedesco, The role of the North Atlantic Oscillation (NAO) on recent Greenland surface mass loss and mass partitioning, ISAR-5 / Fifth International Symposium on Arctic Research, Tokyo, January 15 - 18, 2018

[221] M. Tedesco, Mini-discussion of preceding presentations, Workshop on Antarctic Surface Hydrology and Future Ice Shelf Stability, Lamont-Doherty Earth Observatory, Palisades, New York, February 21-22, 2018

[222] M. Tedesco, A. Rennermalm, R. Hock, P. Alexander, G. Corti, F. Covi, C. Miege, A. Heilig, J. Kingslake, L. Koenig, S. Leidman, M. MacFerrin, S. Munsell, D. Porter and B. Smith, A calibration/validation dataset for improving remote sensing altimetry and surface mass balance over the Greenland ice sheet, ESA, LPVEW-Land Product Validation and Evolution Workshop,Frascati(Rome), Italy, Feb 27- March 1, 2018.

[223] M. Tedesco, Surface and atmospheric drivers of recent Greenland's mass balance changes: new insights and challenges, 2018 Arctic System Change Workshop, Boulder, CO, USA, 9 - 12 April 2018

[224] Heilig, Achim; Eisen, Olaf; MacFerrin, Michael; Tedesco, Marco; Fettweis, Xavier, Differences in Seasonal Melt in Greenland for Summer 2016 and 2017 - upGPR to determine liquid water percolation, retention and accumulation over the last two melt seasons, 20th EGU General Assembly, EGU2018, Proceedings from the conference held 4-13 April, 2018 in Vienna, Austria, p.13446

[225] M. Tedesco, M. Linares, S. Margulis, P. Alexander, G. Cortes, and X. Fettweis, An Assessment of the Outputs of Modèle Atmosphérique Régionale (MAR) Model Over the Himalaya Region, AOGS 15th Annual Meeting, 03 to 08 JUN, 2018

[226] M. Tedesco, Warmer, Wetter, Darker: The Changing Face of the Greenland Ice Sheet, Patagonia Upper West Side, New York, NY, Jun 20, 2018.

[227] M. Tedesco, P. Alexander, D. Porter, X. Fettweis, S. Luthcke, T. Mote, A. Rennermalm and E. Hanna, Exceptional atmospheric conditions (1850 – 2016) drive recent Greenland surface mass loss and mass partitioning, Polar 2018, Davos, Switzerland, June 15-26, 2018.

[228] P. M. Alexander, M. Tedesco, A. N. LeGrande, E. Fischer, M. Kelley, X. Fettweis, G. Schmidt, Simulating the surface mass balance of ice sheets in the ModelE2 GCM, Polar 2018, Davos, Switzerland, June 15-26, 2018.

[229] J. Kingslake, A. Banwell, R. Bell, A. Boghosian, J. Spergel, M. Tedesco and L. Trusel, Future research directions in Antarctic surface hydrology and ice-shelf Stability, Polar 2018, Davos, Switzerland, June 15-26, 2018.

[230] M. Tedesco, Ocean, climate and ice sheets, Climate Week NYC, September 24-30, 2018

[231] R. Datta, M. Tedesco, X. Fettweis, C. Agosta, S. Lhermitte and J. Lenaerts, Recent foehn-induced melt over the Larsen C Ice Shelf: from the atmosphere to the snowpack, 2018 WAIS Workshop, Stony Point Center, Stony Point, New York, U.S.A. September 16-20, 2018.

[232] A. Boghosian, R. Bell, D. Porter, M. Tedesco and S. Wang, A surface meltwater budget for ice shelves: a case study over Petermann, Greenland, 2018 WAIS Workshop, Stony Point Center,Stony Point, New York, U.S.A. September 16-20, 2018.

[233] M. Tedesco, From Greenland to Hurricane Florence: exploratory and applied science linking Arctic changes to societal applications, Jupiter NYC, Oct 5, 2018

[234] M. Tedesco, Linking atmospheric drivers to surface mass balance, hydrology and ocean Processes, Helheim Glacier / Sermilik Fjord Roundtable, The Heising-Simons Foundation, Los Altos, California, October 18 and 19, 2018

[235] M. Tedesco, The X-Snow project: citizen science for homogenizing snow measurements, Workshop: Towards a better harmonization of snow observations, modeling and data assimilation in Europe, Budapest, Hungary, October 30 - 31, 2018

[236] M. Tedesco, X-Snow , X-Snow training workshop, The Earth Institute Columbia University, New York, NY-USA, December 6, 2018

[237] Tedesco, M., P. Alexander, X. Fettweis, E. Hanna, T. L. Mote, D. F. Porter, A. K. Rennermalm, B. M. Csatho, R. E. Bell, A. Boghosian, and N. Schlegel (2018) Unprecedented (1851-2016) atmospheric conditions drive record surface and ice dynamic mass losses over the Greenland ice sheet, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[238] Alexander, P. M., M. Tedesco, E. Fischer, A. N. LeGrande, X. Fettweis, M. Flanner, S. Nowicki, and G. A. Schmidt (2018) Effect of improved physically-based simulation of land ice albedo on Greenland ice sheet surface mass balance and arctic regional climate in the ModelE GCM, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[239] X. Fettweis, SMBMIP over the Greenland ice sheet: Intercomparion of 11 models over 1980-2012 forced by ERA-Interim, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[240] Å. K. Rennermalm, R. Hock, G. Corti, F. Covi, C. Miege1, M. Tedesco, J. Kingslake, S. Leidman, X. Fettweis, Meltwater Refreezing in Southwest Greenland Ice Sheet Firn Spatial Variability and Temporal Change Between 1989 and 2017, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[241] R.T. Datta, Medley, B., Tedesco, M., Fettweis, X. , Agosta, C., Lhermitte, S and Lenaerts, J., The effects of recent autumn foehn-induced melt on the Larsen C Ice Shelf, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[242] F. Covi, R. Hock, A. K. Rennermalm, M. Tedesco, C. Miège, J. Kingslake, S. Z. Leidman, and M. MacFerrin, Modeling Energy Balance and Refreezing in Firn in Southwest Greenland during the 2017 melting season, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[243] S. Wang, M. Tedesco, M. Xu, C. Foreman, M. Flanner, Mapping the spatial distribution of dark ice and ice algae with Sentinel-3 imagery over southwest Greenland, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[244] Boghosian, A., B. M. Csatho, M. Tedesco, R. E. Bell, D. F. Porter, P. M. Alexander, and N. Schlegel (2018) Linking the atmosphere and ice dynamics in Greenland, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[245] Dong, L., D. F. Porter, M. Tedesco, and P. Alexander (2018) Developing a glacial surface model for Greenland to improve projections of surface runoff, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[246] Linares, M., M. Tedesco, S. A. Margulis, P. Alexander, X. Fettweis, and G. Cortés (2018) Modeling surface quantities over Himalaya using the Modèle Atmosphérique Régionale (MAR) Model: multi-decadal simulations and assessment using satellites and in-situ data, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[247] Lyons, H., M. Tedesco, M. G. Cooper, P. M. Alexander, and N. Frearson (2018) Spatial and morphological analysis of cryoconite holes in Kangerlussuaq, Greenland using unmanned aerial vehicle imaging and automated software recognition, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[248] Nusbaumer, J. M., P. M. Alexander, A. N. LeGrande, and M. Tedesco (2018) Evaluating the moisture sources of water vapor and precipitation over Greenland in GISS ModelE2.1, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[249] Porter, D. F., P. M. Alexander, M. Tedesco, B. Smith, and L. Dong (2018) Greenland firn evolution response to changing atmospheric conditions in the MAR surface model, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[250] A. K. Rennermalm, R. Hock, G. Corti, F. Covi, C. Miege, M. Tedesco, J. Kingslake, S. Leidman, X. Fettweis, Meltwater Refreezing in Southwest Greenland Ice Sheet Firn Spatial Variability and Temporal Change Between 1989 and 2017, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[251] Lewis, G.M., Osterberg, E.O., Hawley, R.L, Marshall, HP., Birkel, S.D., Dibb, J., Koffman, B.G., Ferris, D., Tedesco, M., "Effects of Mineral Dust and Black Carbon on Albedo in the Western Greenland Ice Sheet Percolation Zone, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[252] S. Margulis, G. Cortes, Y. Liu, E. Baldo, M. Tedesco and M. Linares, Toward a High Mountain Asia Snow Reanalysis, Fall 2018 American Geophysical Union Meeting, Washington, DC, 10-14 Dec.

[253] Tedesco, M., P. Alexander, D. Porter, S. Wang, P. Colosio, L. Dong, X. Fettweis, G. Picard, B. Smith, A. Rennermalm, and R. Ranzi (2019) Surface melting and elevations changes over the Greenland ice sheet: trends, processes and new tools, Program for Arctic Regional Climate Assessment (PARCA) meeting, Earth System Science Interdisciplinary Center, College Park, MD, January 31, 2019.

[254] Alexander, P., L. Koenig, M. Tedesco, and X. Fettweis (2019) Controls on simulation of snow and firn density in the regional climate model MAR, Program for Arctic Regional Climate Assessment (PARCA) meeting, Earth System Science Interdisciplinary Center, College Park, MD, January 31, 2019.

[255] B. Smith, M. Tedesco, Patrick Alexander, Xavier Fettweis and Wendy Ermold, Calibrating and validating firn-densification and SMB modeling using altimetry and radar data, Program for Arctic Regional Climate Assessment (PARCA) meeting, Earth System Science Interdisciplinary Center, College Park, MD, January 31, 2019.

[256] F. Covi, R. Hock, G. Corti, A.K. Rennermalm, M. Tedesco, C. Mi`ege, J. Kingslake, S.Z. Leidman and S. Munsell, Spatio-Temporal Variability of Refreezing in Firn in West Greenland, Program for Arctic Regional Climate Assessment (PARCA) meeting, Earth System Science Interdisciplinary Center, College Park, MD, January 31, 2019.

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[258] R. Datta, Tedesco, M. , Agosta, C. , Fettweis, X., Kuipers Munneke, P., van den Broeke, M. , Recent (2015-2017) melt patterns over the Larsen C ice shelf from models and Observations, Program for Arctic Regional Climate Assessment (PARCA) meeting, Earth System Science Interdisciplinary Center, College Park, MD, January 31, 2019.

[259] Corti, G; Hock, R; Covi, F; Kingslake, J; Leidman, S; Miege, C; Rennermalm, A; Tedesco, M. Spatio-Temporal Variations of Ice Lenses in Southwest Greenland. Northwest Glaciologists Conference 2019, OCTOBER 4 - 5, 2019

[260] Ballinger, T.J.; Brasher, J; Hanna, E; Hall, R J; Tedesco, M; Greene, E; Atlantic Arctic Ocean, atmosphere, and sea-ice controls of cold season Greenland coastal air temperatures, 1873-2013. Annual AAG Meeting, April 4-7, 2019, Washington, D.C.,

[261] Rennermalm, A; Hock, R; Corti, G; Covi, F; Miège, C; Leidman, S; Tedesco, M; Kingslake, J; Fettweis, X. Spatial and temporal trends in ice lenses in Southwest Greenland, 1989-2017. AGU Fall meeting , San Francisco, December 2019

[262] Covi, F; Hock, R; Reijme, CH; Rennermalm, A; Tedesco, M; High Resolution Modeling of Subsurface Processes in Firn in Southwest Greenland. AGU Fall meeting , San Francisco, December 2019

[263] Tedesco, M; Moon, T; Alexander, P.; Wang, S.; Colosio, P; Fettweis, X; Francis, J; The exceptional 2019 melting season over the Greenland ice sheet: drivers and implications. AGU Fall meeting , San Francisco, December 2019

[264] Tedesco, M; McAlpine, S; Porter, J. Exposure of properties to the 2018 Hurricane Florence flooding: an expanding bull's-eye perspective. AGU Fall meeting , San Francisco, December 2019

[265] Cooper, M;Smith, LC; Rennermalm, A; Tedesco, M; Muthyala, R; Moustafa, S; Liston, G E; van de Berg,WJ; van den Broeke, M; van Dalum, CT. First measurements of solar light transmission in bare

glacier ice: Implications for subsurface meltwater production in the Greenland Ice Sheet ablation zone. AGU Fall meeting , San Francisco, December 2019

[266] Ballinger, T.J.; Hanna, E; Hall, RJ; Tedesco, M; Brasher, S; Ding, Q; Carr, R; Mernild, S; Cappelen, J. *North Atlantic blocking regulates cold season air temperature variability over Greenland coastal and ice sheet ablation areas.* AGU Fall meeting , San Francisco, December 2019.

[267] Alexander, P; Tedesco, M; LeGrande, A; Fischer, E; Wang, S; Fettweis, X; Flanner, M; Kelley, M; Nowicki, S; Schmidt, G; Impact of varying bare ice extent and albedo on Greenland ice sheet SMB in the NASA GISS ModelE GCM. AGU Fall meeting , San Francisco, December 2019.

[268] Wang, S; *Tedesc[3],M; Alexander, P; Xu*, M; C34A-07Spatiotemporal variability of ice algal blooms in southwest Greenland and its impact on bare ice albedo based on MERIS and MODIS satellite observations. AGU Fall meeting , San Francisco, December 2019.

[269] Lyons, H; McCarthy, C; Frearson, N; Tedesco, M; Alexander, P; *Experimental Analysis of Microplastics as Cryospheric Nucleation Sites for Sea Ice Reformation and Impactors of Glacier Viscous Flow Rates.* AGU Fall meeting , San Francisco, December 2019.

[270] Zaima, L; Tedesco, M; Turrin, M. PlasticXSnow: Citizen Science Project to Identify Microplastics in Snow. AGU Fall meeting , San Francisco, December 2019.

[271] Tedesco, M. Sea Level Rise, Coastal flooding and Property Values, Alliance Bersnstein, February 13th, 2019

[272] Tedesco, M; Heal, G; Horton, R; McAlpine, S; Porter, J; Eby, M. Mapping the impact of floods on house markets from space: a test case of Hurricane Florence in 2018. Workshop on Correlated Extremes, May 28 – 30, Columbia University

[273] Tedesco, M. Warmer, wetter and darker: the changing face of the Greenland ice sheet. ESA – Invited Talk. August 14th, 2019.

[274] Tedesco, M. Ocean, climate and ice sheets. (Invited). Explorers Club, June 5th, 2019

[275] Tedesco, M. "Ghiaccio". (Invited) Launching of the Italian book at the Italian Science Festival. November 1, 2019.

[276] Tedesco, M; Heal, G; Horton, R; McAlpine, S; Porter, J; Eby, M. Mapping the impact of floods on house markets from space: a test case of Hurricane Florence in 2018. Workshop on Managed Retreat, June 2019, Columbia University

[277] Tedesco, M; Alexadner, P; Porter, D; Dong, L; Smith, B; Picard, G; Fettwies, G. TOWARD THE COMBINATION OF ELECTROMAGNETIC AND REGIONAL-CLIMATE MODELS TO IMPROVE RADAR AND LIDAR ALTIMETRY ESTIMATES OVER GREENLAND ICE SHEET. ESA Living Planet Conference, May 17 – 19, 2019. Milan, Italy.

[278] Colosio, P; Tedesco,M; Ranzi, R. Melt detection over Greenland and Antarctica from NASA MeASUREs enhanced spatial resolution passive microwave data. PARCA Annual Meeting, January 27-29, 2019, NASA GSFC, Greenbelt, MD

[279] Rennermalm, A; Muthyala, R; Moustafa, S; Smith, L; Mote, T; Leidman, S; Cooper,M; Pitcher,L; Tedesco,M; van As, D. Greenland ice sheet runoff in models and pro- and supraglacial observations. PARCA Annual Meeting, January 27-29, 2019, NASA GSFC, Greenbelt, MD

[280] Tedesco, M; Surface melting and elevations changes over the Greenland ice sheet: trends, processes and new tools. . PARCA Annual Meeting, January 27-29, 2019, NASA GSFC, Greenbelt, MD

Opinion Papers, editorials and contribution to Italian newspapers (selected)

- http://www.repubblica.it/ambiente/2016/11/13/news/donald_trump_e_myron_ebell_il_suo_delfino_per_il_clima-151918466/?ref=search
- http://www.repubblica.it/ambiente/2016/12/13/news/noaa_ghiacci_artico_salute-154030405/?ref=search
- http://ricerca.repubblica.it/repubblica/archivio/repubblica/2016/10/23/non-solo-satelliti-ora-ci-tufferemo-sotto-il-gigante22.html?ref=search
- http://www.scienzainrete.it/node/17852
- M. Tedesco, L'Artico in ginocchio, March 2017, BioGeoEco (http://www.bioecogeo.com/2016-lartico-ginocchio/)
- http://www.repubblica.it/ambiente/2017/01/19/news/grido_artico_allarme_cambiamento_climatico-156380147/?ref=HREC1-19
- https://thehill.com/opinion/energy-environment/397660-sea-levels-must-rise-to-the-top-of-the-agenda-in-washington
- https://blogs.scientificamerican.com/observations/searching-for-life-on-mars-through-the-lens-of-greenland/

Academic and professional honors

1999	Winner of PhD scholarship at the University of Potenza (Italy) to be performed at IROE (Florence – Italy) about 'Methods and New Technologies for Environment Monitoring' with Microwave Remote Sensing Group
2000	Winner of a CIMO (Center for International Mobility) and Italian Ministry Foreign affaires grant
2003	Winner of the Student Grant Travel Assistance for IGARSS 2003 – Toulouse and Finalist of the Student Prize Paper Competition – IGARSS 2003 – Toulouse
2005	Recipient of the Outstanding NASA Research Associate Peer Award , Code 614, August
2005	Winner of the Young Scientist award , International URSI General Assembly, New Delhi, October
2008	(through 2013) Recipient of the CUNY 'Salute to Scholars' certificate for outstanding scholarly achievements
2012	National Science Foundation Antarctic Science Medal for Service in Antarctica

Professional services

Reviewer editorial activities

Reviewer for the following journals (not exhaustive): IEEE Transactions on Geoscience and Remote Sensing and Geoscience; IEEE Remote Sensing Letters; Remote Sensing of Environment; Hydrological Processes; Geophysical Research Letters; Scanning The Journal of Scanning Microscopie; Journal of Climate; International Journal of remote Sensing; The Cryosphere; Antarctic Research; Environmental Research Letters; IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing; Journal of Geophysical Research; Nature; Science; Nature Geoscience;

2014 Editor of the book, *Remote Sensing of the Cryosphere,* Wiley , expected September 2014
2014 Member of the Editorial Board of the Arctic report Card
2012 - Lead author of the Greenland section of the NOAA Arctic Report Card
2007 Editor of the Special issue on Remote Sensing of the Cryosphere, Remote Sensing of the Environment
2008 Editor of the Special issue on Remote Sensing in Hydrological Sciences, Hydrology and Earth System Sciences
2011-13 Section coordinator 'Hydrology and Terrestrial Cryosphere' Section coordinator of the NOAA Arctic Report Card (http://www.arctic.noaa.gov/reportcard)
2015 - Associate Editor – *The Cryosphere*
2016 - Associate Editor - *Frontiers in Earth Science - Cryosphere Sciences*
2016 - 17 Member of the CRYOSPHERE SCIENCES FOCUS GROUP FELLOWS COMMITTEE

Conferences, meetings and professional services (selected)

2008 – 2010 Vice-president of the EGU Cryosphere Division
2005 – to date Chair and convener of sessions at several international conferences, among which: European Geophysical Union General (EGU), International Geoscience and Remote Sensing Symposium (IGARSS), American Geophysical Union (AGU) general assembly
2017 Lamont Colloquium (lead coordinator)
2017 Lamont IEDA Advisory Committee
2018 Organizing Commitee of the Workshop on Antarctica Surface Hydrology Workshop at Lamont, February 21 - 23, 2018
2012 - Reviewer and panelist for NASA, NSF and other international institutions and agencies
2017 Member of the organizing commitee of the conference Regional Sea Level Changes and Coastal Impacts, 10-14 July 2017, Columbia University, New-York (NY)
2018 Lead organizer of the Workshop on Economics and Climate Change: Merging Science and Social Benefits, LDEO, February 2, 2018

Educational and outreach (selected)

- M. Tedesco, the Greenland ice sheet and climate change, Talk at PS 166 School, Upper West Side Manhattan, July 2016
- M. Tedesco, Melting ice sheets and sea level rise, Senate Hearing and Press Roundtable – Washington, D.C., July 13th, 2016
- M. Tedesco, The Greenland ice sheet, Talk at Lamont for High School students, November 17th, 2016
- Organizer of the NASA SMB Greenland Workshop (July 2016). 40 participants
- Organizer of the NASA AMSR Science Team Workshop (September 2016). 20 participants
- Teaching of the short class 'Remote Sensing of the Cryosphere' at the University of Naples, Italy, May 2017
- Invited talk at Ecoart project salon series: Greenland's melting glaciers, Tuesday, May 2, 2017 6:00pm ? 8:00pm - 231 10th Avenue New York, NY
- Is this a black phone ? Concepts on hyperspectral knowledge applied to data interpretation, Object America, Parsons School of Design, December 1, 2017
- Talk at PS 166 (middle school) on February 15, 2018 on Climate Change

Media coverage and outreach (selected and most recent)

- **2019-2020**

- https://blogs.ei.columbia.edu/2020/02/20/plastic-production-climate-change/
- https://www.highsnobiety.com/p/slow-factory-study-hall-sustainable-fashion/
- https://magazine.columbia.edu/article/its-snowing-microplastic
- https://blogs.ei.columbia.edu/2019/12/20/plastix-snow-citizen-science-project
- https://www.nytimes.com/2019/12/04/climate/climate-change-acceleration.htm
- https://www.capital.it/programmi/cactus-basta-poca-acqua/puntate/cactus-basta-poca-acqua-del-30-10-2019/https://www.washingtonpost.com/sports/2019/10/16/waters-rise-so-do-concerns-sports-teams-along-coast/?arc404=true
- https://www.ft.com/content/65dbd11a-d9a4-11e9-8f9b-77216ebe1f17
- https://www.cbc.ca/news/canada/north/greenland-heatwave-reaction-1.5242195
- https://www.theguardian.com/us-news/2019/aug/08/alaska-warmest-month-ever-july-2019-sea-ice
- https://abcnews.go.com/International/rapid-melting-greenland-ice-sheet-significant-contributor-rising/story?id=63784264
- https://www.nytimes.com/2019/06/17/climate/greenland-ice-sheet-melting.html
- https://www.nationalgeographic.com/environment/2019/07/greenland-melting-second-time-this-summer-bad/
- https://www.usatoday.com/story/news/2019/08/02/4-million-olympic-pools-how-much-arctic-melted-yesterday/1899006001/
- https://www.scientificamerican.com/article/these-are-the-biggest-climate-questions-for-the-new-decade

Before 2019

- https://phys.org/news/2018-03-science-crystal-clues-climate-watersheds.html
- https://www.nytimes.com/aponline/2018/03/16/us/ap-us-snowflake-hunters.html
- http://www.ldeo.columbia.edu/news-events/x-snow-project-needs-your-help-unlock-secrets-snow
- https://www.vox.com/energy-and-environment/2018/2/27/17053284/arctic-heat-wave-north-pole-climate
- https://www.scientificamerican.com/article/could-more-snow-in-antarctica-slow-sea-level-rise/
- http://www.weathernationtv.com/news/x-snow-project-looking-unlock-secrets-snow/
- http://www.repubblica.it/ambiente/2017/12/06/news/la_groenlandia_si_scioglie_ma_non_tutta_l_acqua_finisce_in_mare-183276219/?ref=RHPPBT-VA-I0-C4-P15-S1.4-F4
- https://www.nytimes.com/interactive/2017/12/05/climate/greenland-ice-melting.html
- https://www.youtube.com/watch?v=qgnvbMwRaf8
- http://www.pbs.org/video/how-warmer-winters-affect-our-planet-iuqxtf/
- http://www.airspacemag.com/history-of-flight/ice-earth-melt-180964752/
- https://www.google.com/url?rct=j&sa=t&url=https://eurekalert.org/pub_releases/2017-07/ssoe-gso070517.php&ct=ga&cd=CAEYACoTOTA1MDc2Mzk0ODc5MTE3NDQwMDIaODRlZmQ2NWQwMDIwNzkwOTpjb206ZW46VVM&usg=AFQjCNHEh0PMZ4PKmggHUP390I7fDRqp4g
- https://www.washingtonpost.com/news/energy-environment/wp/2017/06/26/wildfires-can-cause-glaciers-to-melt-from-over-a-thousand-miles-away-scientists-find/?utm_term=.fdb881ad4c9b
- http://blogs.ei.columbia.edu/2017/06/06/could-climate-change-shut-down-the-gulf-stream/
- http://ricerca.repubblica.it/repubblica/archivio/repubblica/2017/06/03/un-disastro-ma-resto-negli-usa-a-combattere10.html?ref=search
- http://www.corriere.it/esteri/cards/clima-se-usa-escono-cosa-cambia/rischio-emissioni-non-misurabili.shtml
- http://www.lacittadisalerno.it/cronaca/il-mondo-spiegato-ai-bambini-dalla-sentinella-dei-ghiacciai-1.1521782
- http://blogs.ei.columbia.edu/2017/05/05/the-glaciers-are-going/
- http://www.repubblica.it/ambiente/2017/04/21/news/marco_tedesco_salviamo_il_pianeta_anche_da_trump_-163549813/?ref=search
- https://insideclimatenews.org/news/31032017/-climate-change-science-greenland-global-warming-ice-melt
- https://www.washingtonpost.com/news/energy-environment/wp/2017/03/27/one-of-the-most-troubling-ideas-about-climate-change-just-found-new-evidence-in-its-favor/?utm_term=.c51bc14c5903
- http://www.sciencemag.org/news/2017/02/great-greenland-meltdown
- https://www.wired.com/2017/01/trump-names-former-climate-scientist-erik-noble-nasa-advisory-role/
- http://www.washingtonpost.com/sf/business/2016/12/30/with-enough-evidence-even-skepticism-will-thaw/
- https://vimeo.com/194422210/settings
- https://you.columbia.edu/
- http://www.npr.org/sections/thetwo-way/2016/12/13/505434080/scientists-report-the-arctic-is-melting-even-more-rapidly
- http://www.dire.it/06-12-2016/94565-usa-tedesco-columbia-university-trump-demolira-laccordo-sul-clima/

Mentoring and professional support

Researchers

2016- Dave Porter, Research Scientist (research training)
2016- Elizabeth Fischer, Research Scientist at NASA GISS and LDEO (research training)
2016- Linling Dong (IT staff, (proposal and paper writing; research training)

Postdoc

2016- Patrick Alexander (proposal and paper writing; research training; improving communication skills; presentetions preparation)

PhD Candidates

2013 - Rajashree Datta - Linking tropical climate variability to Antarctic surface processes
2015 - Alex Boghosian (Co-Mentor) – LDEO
2015-17 Brice Noel (Utrecht University, Committee member)
2017 - Gabe Lewis (OSU, Committee member)
2018 - Federico Covi (UAF, Committee member)

Programmers

2013 - Jeyavinoth Jeyaratnam (CCNY/LDEO)
2017 - LingLing dong (LDEO)
2018 - Elizabeth Fischer (CU)

Administrative support

2016 - Frances Simpson (LDEO)

Research Staff Associates

2017 – Melisa Linares (LDEO)
2017 - Jack Day (LDEO)

Alumni

2010 - 15 Patrick Alexander - Improvement and validation of regional climate model over Greenland, PhD
2014 - 15 Erik Ulysses Noble (Mass balance of the Greenland ice sheet), PostDoc
2013 - 16 Laura Larocca (surface energy balance and regional climate modelling), MSc
2014 - 15 Michael Brown (ice sheet hydrology and GIS), MSc

2014 - 16	Erik Orantes (ice sheet hydrology and seismology), MSc
2011- 12	Parag Narvekar (Retrieval of snow water equivalent at global scale), PostDoc
2012 -15	Nicholas Steiner - Remote Sensing of melting over Antarctica through wavelet approaches and active microwave data, PhD
2010	A.B.M. Pathan - Correlation between El Nino and Snow cover area), MSc
2010	Rashmee Pandae - Identificaiton of supraglacial lakes from satellite over Greenland, MSc
2011	Anais Quillet – Relationships between sea ice and Greenland surface mass balance (Visiting student)
2012	Marie Dorleans – Melting over Antarctica from a regional climate model (visiting student)
2011	Gina Stovall - Supraglacial lakes, BS
2011	Tristan Schwartzman - Cryoconite from Greenland and Antarctica, BS

I hereby certify that the information contained in this application is true and correct to the best of my knowledge.

Monday, October 19, 2020

Marco Tedesco