

CURRICULUM VITAE

Dr. Toste Tanhua

Am Wellsee 64
24146 Kiel
Germany
Home phone +49 431 239 5750
Cell phone +49 176 34934093
Work phone +49 431 600 4219
Fax + 49 431 600 4202
email: ttanhua@geomar.de



Personal Information

Sex: Male
Nationality: Swedish
Date of Birth: January 25, 1965

Short Resume

Feb. 2009 – present	GEOMAR, Senior Scientist
Sept. 2002 – Jan 2009	IfM-GEOMAR, University Kiel, Germany, Postdoc.
April .2002 – August 2002	North Pacific sailing expedition.
March 1999 – April 2002	SIO-UCSD, San Diego, CA, Postdoc.
July .1998 – Feb. 1999	Sailing from Göteborg to San Diego.
July 1997 – July 1998	Göteborg University, Sweden, Postdoc.
Sept. 1992 – July 1997	Göteborg University, Sweden, graduate studies.
Aug. 1990 – June 1992	Göteborg University, Sweden, chemistry studies.
Oct. 1989 – July 1990	Africa Overland Expedition.
August 1987 – June 1989	Göteborg University, Sweden, chemistry studies.

Research Positions

Research Positions

01.09.2004 – 31.05.2005 and 01.10.2005 - present

GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany.

Postgraduate positions

01.09.2002 – 31.08.2004

Leibniz-Institute for Marine Research, Marine Biogeochemistry, University of Kiel, Germany. Postgraduate advisor: Prof. Douglas R.W. Wallace. Post-doctorate fellowship funded by Marie Curie individual fellowship, EU.

01.03.1999 – 31.03.2002

Scripps Institution of Oceanography, University of San Diego, California. Postgraduate advisor: Prof. Dr. Ray F. Weiss. Post-doctorate fellowship funded by The Swedish Foundation for International Co-operation in Research and Higher Education (STINT).

01.06.1997 – 30.06.1998

Analytical and Marine Chemistry, Department of Chemistry Göteborg University, Göteborg, Sweden. Postgraduate advisor; Prof. Dr. Elisabet Fogelqvist. Position funded by the VEINS (Variability and Exchanges in the Northern Seas) programme.

Graduate studies

01.09.1992 – 31.05.1997

Analytical and Marine Chemistry, Department of Chemistry, Göteborg University, Göteborg, Sweden. Graduate advisor; Prof. Dr. Elisabet Fogelqvist.

Other experiences

01.06.2005 – 30.09.2005

Sailing cruise in British Columbia and Southeast Alaska. Participation in the 2005 Transpolar expedition onboard IB Oden.

01.04.2002 – 01.08.2002

Carried out a sailing cruise with my own yacht from California, via Hawaii and Alaska, to British Columbia. I prepared for, planned, and led the expedition myself.

01.07.1998 – 28.02.1999

Carried out a sailing cruise with my own yacht from Sweden, via Canary Islands and Panama Canal, to California. I prepared for, planned, and led the expedition myself.

21.10.1991 – 29.11.1991

Chemical work at Svensk Kärnbränslehantering AB, 572 38 Oskarshamn, Sweden. Responsible for chemical laboratory at Äspö Hard Rock Laboratory, a research institute responsible for development of a safe storage for nuclear waste.

01.10.1989 – 30.06.1990

Carried out an overland expedition with a land-rover from Sweden to Zimbabwe. The planning and preparation of the expedition was done together with the two other participants.

1987 – 1994

Worked for a few months every summer as professional diver in Sweden. Mainly on commission from the timber industry.

06.01.1986 - 30.11.1986

Swedish Navy. Diver at a mine-searching division. Mandatory civil service.

04.06.1984 – 24.08.1984 15.10.1994 – 15.12.1984 15.12.1986 – 28.02.1987

Work at the chemical laboratory in a nuclear power plant in Oskarshamn, Sweden.

Education

25.04.1997

PhD, Analytical and Marine Chemistry, Göteborg University.

Thesis: Halogenated substances as marine tracers.

Principal advisor: Prof. Dr. Elisabet Fogelqvist, Analytical and Marine Chemistry, Department of Chemistry, Göteborg University, Göteborg, Sweden.

15.02.1995

Filosofie Licentiat, Analytical and Marine Chemistry, Department of Chemistry, Göteborg University, Göteborg, Sweden.

Thesis: Halocarbons in seawater; their sources, sinks and distributions.

Principal advisor: Prof. Dr. Elisabet Fogelqvist, Analytical and Marine Chemistry, Department of Chemistry, Göteborg University, Göteborg, Sweden.

01.06.1992

MSc in Analytical Chemistry, Göteborg University, Göteborg, Sweden.

Thesis: Bestämning av halogenerade kolväten i havsvatten med purge and trap gaskromatografi.

08.06.1984

Exam from Technical Gymnasium (high school), Chemistry, Teknikum, Växjö, Sweden.

Teaching experience

Graduate student co-advisor

Anders Olsson, PhD, Göteborg University	2001
Anke Schneider, PhD	2011
Tim Stöven, PhD, IFM-GEOMAR, Kiel, Germany	2015
Pingyang Li, GEOMAR, Kiel, Germany	current
Mian Liu, GEOMAR, Kiel, Germany	current

Chris L'Esperance, Dalhousie University, Halifax, Canada current
Lorenza Raimundi, Dalhousie University, Halifax, Canada current

Fellowships awarded

01.09.2002 – 31.08.2004

Marie Curie individual fellowship: European Community as part of the Fifth Framework Programme for research, technological development and demonstration, contract # HPMF-CT-2002-01697.

Postdoctoral fellowship to conduct marine geo-chemical scientific work at the Institute for Marine Research, Marine Biogeochemistry, University of Kiel, Germany

01.03.1999 – 31.03.2001

The Swedish Foundation for International Co-operation in Research and Higher Education (STINT).

Postdoctoral fellowship to conduct postgraduate research at the Geosciences Research Division, Scripps Institution of Oceanography, University of San Diego, California during 1999 and 2000.

01.10.1993 – 31.01.1994

Swedish Institute (SI).

To conduct marine chemistry scientific research at the Institute of Marine Research, Middle East Technical University, Erdemli, Turkey.

Languish skills

Swedish	Mother tongue
English	Fluent
German	Excellent

Memberships / Panels

Current:

- **GOOS** (Global Ocean Observing System): Co-Chair, 2017 – present
- **Joint WMO-IOC Collaborative Board**: 2019 – present
- **Eurofleets+ Scientific Liaison Panel**, 2019 - present

Past:

- **Kiel Data Management Advisory Board**: member as representative of SFB754, 2008 – 2019
- **SFB-754** (Collaborative research Project 754): Member 2008 – 2019; as of 2012 WP lead
- **CIESM, Chair for the Committee for Physics and Climate**, Chair 2016 – 2019.

- **SCOR WG 147 – COMPNUT**, Full member 2015- 2019.**SOLAS/IMBER** Carbon Working Group 2: SSG member 2011 –2017
- **IOCCP** (The International Ocean Carbon Coordination Project): SSG Member 2007 – present; 2010 – 2017 Chair
- **GO_SHIP** (Global Ocean Ship-based Hydrographic Investigations Panel): Member 2007 – 2018
- **GSOP** (CLIVAR Global Synthesis and Observation Panel): Member 2007 – 2013.
- **CARINA** (Carbon in the North Atlantic data synthesis project) North Atlantic group: Chair 2007 – 2010
- **EUROFLEETS2**, Scientific Review Panel , April 2013 – 2015.
- **SGOA** (OSPAR – ICES Study Group on Ocean Acidification): Member 2012 – 2015.
- **CARBOCHANGE** (EU FB7 project): Member SSC 2011 – present; WP lead 2011 – present; Chair Intellectual Property Rights Panel 2011 – 2015

Rewards

Publication reward at IFM-GEOMAR 2007, for excellent publication results 2007.

Funded Proposals

- Baltic Sea Trace Release Experiment (BaTRE), TA 317/1-1: Funded by DFG April 2007; 19.300 €.
- Ocean Tracer Injection System (OTIS): Funded from “Excellence Cluster Future Ocean”, May 2007. Total budget 174.000 €
- Anthropogenic Carbon, CFC-12 and SF₆ in the Tropical Atlantic, WA 1434/10-1: Funded by DFG, October 2007, 25.200 €+ one PhD student.
- CARBOCHANGE WP7: Funded by the EU, 108.600 €
- Chemistry and circulation of the Mediterranean Sea: Funded by DFG, TA 317/3-1, 120.613 €
- Carbon and transient tracer dynamics: A bi-polar view of the Southern Ocean eddies and the changing Arctic Ocean. Funded by DFG, TA 317/5-1, 209.250 €
- SFB 754, TP A3: Vertical and lateral oxygen supply to the Oxygen Minimum Zones: A Tracer Release Experiment (OSTRE). Funded by DFG, ~877 k€
- Biogeochemical sensor course: Funded from Royal Swedish Academy of Sciences, 150.000 SEK, April 2014.
- AtlantOS, Horizon 2020; 265.000 €for GEOMAR/Tanhua, April 2015
- Transient Tracers and Ventilation of the South China Sea and Adjacent Marginal Seas: Funded from DAAD, February 2017, 14.584 €
- EuroSea: European Union’s Horizon 2020 research and innovation programme under grant agreement No 862626, 12.6 M€ coordinator.

Funded Ship time proposals:

- Oxygen Supply Tracer Release Experiment (OSTRE-I), 10_04 Tanhua: Proposal for ship-time on RV Meteor or RV Merian, Funded in March 2010
- Oxygen Supply Tracer Release Experiment (OSTRE-II), 11_02 Visbeck: Proposal for ship-time on RV Meteor or RV Merian, Funded in September 2011
- Repeat hydrography in the Mediterranean, 46-11: Proposal for ship-time on the Poseidon. Funded for 25 days on the Meteor, and 74.920 € funded for the cruise.
- Oxygen Supply Tracer Release Experiment (OSTRE-III), MerMet 2-10 Tanhua/Visbeck: Proposal for ship-time on RV Meteor or RV Merian, Funded in March 2012
- Oxygen Supply Tracer Release Experiment (OSTRE-IV), MerMet 13-109 Tanhua: Proposal for ship-time on RV Meteor or RV Merian, Funded in March 2013
- Cretan Sea and Levantine Basin Med-SHIP Investigations in 2016 (CRELEV-2016): EUROFLEETS15-010 proposal for ship time on RV Aegeo; funded in 2015.
- A Tyrrhenian Sea & Algero-Provencal component of the MedSHIP programme: EUROFLEETS15-014 proposal for ship time on RV Ramon Margalef; funded in 2015
- Evolution and spreading of Adriatic Waters (ESAW): EUROFLEETS15-018 proposal for two cruises on the RV Bios-Dva; funded in 2015
- Benthic-Pelagic Exchanges in the Peruvian OMZ System: A Tracer Release Experiment (POSTRE), Mer-Met 16-40 Tanhua: 35 working days on Merian or Meteor, funded in 2016

Review activities

Scientific journals:

Deep-Sea Research, Journal of Geophysical Research, Geophysical Research Letters, Nature, Biogeosciences, Global Biogeochemical Cycles, Earth System Science Data, Bulletin of the American Meteorological Society, Journal of Marine Systems, Tellus, Marine Chemistry, Advances in Atmospheric Sciences

Funding agencies:

NSF, Mittelgroßen Forschungsschiffe (Germany), Programma Nazionale di Ricerche in Antartide (Italy), Polish-Swiss Research Programme,

Editorial duties:

- Guest editor for Earth System Science Data; guest editor for Ocean Science
- Editorial board for Advances in Oceanography
- Associate Editor for Geophysical Research Letter, 1/9/2015 – 31/12/2018.

Participating in seagoing expeditions

Mediterranean Sea, MSM72 (co-chief scientist) RV Maria S. Merian (Germany)	2018-03-01 – 2018-04-03
Tropical South East Pacific, M135 (co-chief scientist) RV Meteor (Germany)	2017-03-01 – 2017-04-08
Western Mediterranean Sea, TaiPro RV Angeles Alvarino (Spain)	2016-08-18 – 2016-08-29
Tropical Pacific, SO243 RV Sonne (Germany)	2015-10-05 – 2015-10-22
Tropical Atlantic, M116 (co-chief scientist) RV Meteor (Germany)	2015-05-01 – 2015-06-03
Tropical Atlantic, M105 (co-chief scientist) RV Meteor (Germany)	2014-03-17 – 2014-04-16
Tropical Atlantic, M97 (chief scientist) RV Meteor (Germany)	2013-05-25 – 2013-06-28
Tropical Atlantic, MSM23 (co-chief scientist) RV Maris S. Merian (Germany)	2012-11-26 – 2012-12-20
Mediterranean Sea, M84/3(chief scientist) RV Meteor (Germany)	2011-04-05 – 2011-05-28
Tropical Atlantic, M83/1 (co-chief scientist) RV Meteor (Germany)	2010-10-13 – 2010-11-13
Tropical Atlantic, M80/2 (co-chief scientist) RV Meteor (Germany)	2009-11-26 – 2009-12-22
Tropical Atlantic, MSM10/1 (co-chief scientist) RV Maria S. Merian (Germany)	2008-11-01 – 2008-12-06
Tropical Atlantic, MSM08/1 (co-chief scientist) RV Maria S. Merian (Germany)	2008-04-20 – 2008-05-03
Baltic Sea, AL312 RV Alkor (Germany)	2008-01-26 – 2008-02-07
Baltic Sea, P357B RV Poseidon (Germany)	2007-09-20 – 2007-09-26
Baltic Sea, P357A RV Poseidon (Germany)	2007-09-06 – 2007-09-16
Mauritanian upwelling area, P347 RV Poseidon (Germany)	2007-01-18 – 2007-02-05
Tropical Atlantic, M68/2 RV Meteor (Germany)	2006-06-06 – 2006-07-09

Arctic Ocean IB Oden (Sweden)	2005-08-20 – 2005-09-25
Mid-latitude North Atlantic, M60/5 RV Meteor (Germany)	2004-03-09 - 2004-04-15
Labrador Sea, North Atlantic, M59/3 RV Meteor (Germany)	2003-08-29 - 2003-10-05
Irminger Sea, M59/1 RV Meteor (Germany)	2003-06-25 - 2003-07-21
The Nordic Seas RV Marion Dufresne (France)	1999-07-25 - 1999-08-16
Southern Ocean SAS Outeniqua and SA Agulhas (South Africa)	1997-11-28 - 1998-02-05
Denmark Strait RV Aranda (Finland)	1997-08-08 - 1997-09-14
Greenland Sea (co-chief scientist) RV Johan Hjort (Norway)	1997-04-24 - 1997-05-26
Greenland Sea RV Håkan Mossby (Norway)	1996-11-11 - 1996-12-06
Greenland Sea RV Håkan Mossby (Norway)	1995-02-18 - 1995-03-17
The Nordic Seas and Denmark Strait RV Johan Hjort (Norway)	1994-07-23 - 1994-08-11
Mediterranean, Sea of Marmara and the Black Sea RV Bilim (Turkey)	1993-12-01 - 1993-12-21
Denmark Strait RV Aranda (Finland)	1993-08-16 - 1993-09-11
Baltic Sea RV Argos (Sweden)	1993-06-07 - 1993-06-17
Weddell Sea, Antarctica RV Lance (Norway)	1993-01-07 - 1993-02-27
Strait of Bosphorus RV Bilim (Turkey)	1992-08-27 - 1992-09-03
Baltic Sea RV Argos (Sweden)	1992-01-20 - 1992-01-30

List of publications

Ph.D. Thesis

Tanhua T., 1997. Halogenated substances as marine tracers. PhD Thesis, Göteborg University, Sweden, defended April 11, 1997.

Fil. Lic. Thesis

Tanhua T., 1995. Halocarbons in seawater; their sources, sinks and distributions. Fil. Lic. Thesis, Göteborg University, Sweden

Original papers in refereed journals:

1. Broullón, D., Pérez, F.F., Velo, A., Hoppema, M., Olsen, A., Takahashi, T., Key, R.M., **Tanhua, T.**, Santana-Casiano, J.M., and Kozyr, A. (2020). A global monthly climatology of oceanic total dissolved inorganic carbon: a neural network approach. *Earth Syst. Sci. Data* 12, 1725-1743.10.5194/essd-12-1725-2020
2. Li, P., and **Tanhua, T.** (2020). Recent Changes in Deep Ventilation of the Mediterranean Sea; Evidence From Long-Term Transient Tracer Observations. *Frontiers in Marine Science* 7.10.3389/fmars.2020.00594
3. Terhaar, J., **Tanhua, T.**, Stöven, T., Orr, J.C., and Bopp, L. Evaluation of data-based estimates of anthropogenic carbon in the Arctic Ocean. *Journal of Geophysical Research: Oceans*, 125, e2020JC016124.10.1029/2020jc016124
4. Olsen, A., Lange, N., Key, R.M., **Tanhua, T.**, Álvarez, M., Becker, S., Bittig, H.C., Carter, B.R., Cotrim Da Cunha, L., Feely, R.A., Van Heuven, S., Hoppema, M., Ishii, M., Jeansson, E., Jones, S.D., Jutterström, S., Karlsen, M.K., Kozyr, A., Lauvset, S.K., Lo Monaco, C., Murata, A., Pérez, F.F., Pfeil, B., Schirnick, C., Steinfeldt, R., Suzuki, T., Telszewski, M., Tilbrook, B., Velo, A., and Wanninkhof, R. (2019). GLODAPv2.2019 – an update of GLODAPv2. *Earth Syst. Sci. Data* 11, 1437-1461.10.5194/essd-11-1437-2019
5. Rajasakaren, B., Jeansson, E., Olsen, A., **Tanhua, T.**, Johannessen, T., and Smethie, W.M. (2019). Trends in anthropogenic carbon in the Arctic Ocean. *Progress in Oceanography* 178, 102177.https://doi.org/10.1016/j.pocean.2019.102177
6. Tintoré, J., Pinardi, N., Álvarez-Fanjul, E., Aguiar, E., Álvarez-Berastegui, D., Bajo, M., Balbin, R., Bozzano, R., Nardelli, B.B., Cardin, V., Casas, B., Charcos-Llorens, M., Chiggiato, J., Clementi, E., Coppini, G., Coppola, L., Cossarini, G., Deidun, A., Deudero, S., D'ortenzio, F., Drago, A., Drudi, M., El Serafy, G., Escudier, R., Farcy, P., Federico, I., Fernández, J.G., Ferrarin, C., Fossi, C., Frangoulis, C., Galgani, F., Gana, S., García Lafuente, J., Sotillo, M.G., Garreau, P., Gertman, I., Gómez-Pujol, L., Grandi, A., Hayes, D., Hernández-Lasheras, J., Herut, B., Heslop, E., Hilmi, K., Juza, M., Kallos, G., Korres, G., Lecci, R., Lazzari, P., Lorente, P., Liubartseva, S., Louanchi, F., Malacic, V., Mannarini, G., March, D., Marullo, S., Mauri, E., Meszaros, L., Murre, B., Mortier, L., Muñoz-Mas, C., Novellino, A., Obaton, D., Orfila, A., Pascual, A., Pensieri, S., Pérez Gómez, B., Pérez Rubio, S., Perivoliotis, L., Petihakis, G., De La Villéon, L.P., Pistoia, J., Poulain, P.-M., Pouliquen, S., Prieto, L., Raimbault, P., Reglero, P., Reyes, E., Rotllan, P., Ruiz, S., Ruiz, J., Ruiz, I., Ruiz-Orejón, L.F., Salihoglu, B., Salon, S., Sammartino, S., Sánchez Arcilla, A., Sánchez-Román, A., Sannino, G., Santoleri, R.,

- Sardá, R., Schroeder, K., Simoncelli, S., Sofianos, S., Sylaios, G., **Tanhua, T.**, Teruzzi, A., Testor, P., Tezcan, D., Torner, M., Trotta, F., et al. (2019). Challenges for Sustained Observing and Forecasting Systems in the Mediterranean Sea. *Frontiers in Marine Science* 6.10.3389/fmars.2019.00568
7. **Tanhua, T.**, Mccurdy, A., Fischer, A., Appeltans, W., Bax, N., Currie, K., Deyoung, B., Dunn, D., Heslop, E., Glover, L.K., Gunn, J., Hill, K., Ishii, M., Legler, D., Lindstrom, E., Miloslavich, P., Moltmann, T., Nolan, G., Palacz, A., Simmons, S., Sloyan, B., Smith, L.M., Smith, N., Telszewski, M., Visbeck, M., and Wilkin, J. (2019). What We Have Learned From the Framework for Ocean Observing: Evolution of the Global Ocean Observing System. *Frontiers in Marine Science* 6.10.3389/fmars.2019.00471
 8. **Tanhua, T.**, Pouliquen, S., Hausman, J., O'brien, K., Bricher, P., De Bruin, T., Buck, J.J.H., Burger, E.F., Carval, T., Casey, K.S., Diggs, S., Giorgetti, A., Graves, H., Harscoat, V., Kinkade, D., Muelbert, J.H., Novellino, A., Pfeil, B., Pulsifer, P.L., Van De Putte, A., Robinson, E., Schaap, D., Smirnov, A., Smith, N., Snowden, D., Spears, T., Stall, S., Tacoma, M., Thijsse, P., Tronstad, S., Vandenberghe, T., Wengren, M., Wyborn, L., and Zhao, Z. (2019). Ocean FAIR Data Services. *Frontiers in Marine Science* 6.10.3389/fmars.2019.00440
 9. Sloyan, B.M., Wanninkhof, R., Kramp, M., Johnson, G.C., Talley, L.D., **Tanhua, T.**, Mcdonagh, E., Cusack, C., O'rourke, E., MCGovern, E., Katsumata, K., Diggs, S., Hummon, J., Ishii, M., Azetsu-Scott, K., Boss, E., Ansoerge, I., Perez, F.F., Mercier, H., Williams, M.J.M., Anderson, L., Lee, J.H., Murata, A., Kouketsu, S., Jeansson, E., Hoppema, M., and Campos, E. (2019). The Global Ocean Ship-Based Hydrographic Investigations Program (GO-SHIP): A Platform for Integrated Multidisciplinary Ocean Science. *Frontiers in Marine Science* 6.10.3389/fmars.2019.00445
 10. Roemmich, D., Alford, M.H., Claustre, H., Johnson, K., King, B., Moum, J., Oke, P., Owens, W.B., Pouliquen, S., Purkey, S., Scanderbeg, M., Suga, T., Wijffels, S., Zilberman, N., Bakker, D., Baringer, M., Belbeoch, M., Bittig, H.C., Boss, E., Calil, P., Carse, F., Carval, T., Chai, F., Conchubhair, D.Ó., D'ortenzio, F., Dall'olmo, G., Desbruyeres, D., Fennel, K., Fer, I., Ferrari, R., Forget, G., Freeland, H., Fujiki, T., Gehlen, M., Greenan, B., Hallberg, R., Hibiya, T., Hosoda, S., Jayne, S., Jochum, M., Johnson, G.C., Kang, K., Kolodziejczyk, N., Körtzinger, A., Traon, P.-Y.L., Lenn, Y.-D., Maze, G., Mork, K.A., Morris, T., Nagai, T., Nash, J., Garabato, A.N., Olsen, A., Pattabhi, R.R., Prakash, S., Riser, S., Schmechtig, C., Schmid, C., Shroyer, E., Sterl, A., Sutton, P., Talley, L., **Tanhua, T.**, Thierry, V., Thomalla, S., Toole, J., Troisi, A., Trull, T.W., Turton, J., Velez-Belchi, P.J., Walczowski, W., Wang, H., Wanninkhof, R., Waterhouse, A.F., Waterman, S., Watson, A., Wilson, C., Wong, A.P.S., Xu, J., and Yasuda, I. (2019). On the Future of Argo: A Global, Full-Depth, Multi-Disciplinary Array. *Frontiers in Marine Science* 6.10.3389/fmars.2019.00439
 11. Broullón, D., Pérez, F.F., Velo, A., Hoppema, M., Olsen, A., Takahashi, T., Key, R.M., **Tanhua, T.**, González-Dávila, M., Jeansson, E., Kozyr, A., and Van Heuven, S.M.a.C. (2019). A global monthly climatology of total alkalinity: a neural network approach. *Earth Syst. Sci. Data* 11, 1109-1127.10.5194/essd-11-1109-2019
 12. Deyoung, B., Visbeck, M., De Araujo Filho, M.C., Baringer, M.O.N., Black, C., Buch, E., Canonico, G., Coelho, P., Duha, J.T., Edwards, M., Fischer, A., Fritz, J.-S., Ketelhake, S., Muelbert, J.-H., Monteiro, P., Nolan, G., O'rourke, E., Ott, M., Le Traon, P.Y., Pouliquen, S., Sousa-Pinto, I., **Tanhua, T.**, Velho, F.V., and Willis, Z. (2019). An

- Integrated All-Atlantic Ocean Observing System in 2030. *Frontiers in Marine Science* 6.10.3389/fmars.2019.00428
13. Pearlman, J., Bushnell, M., Coppola, L., Karstensen, J., Buttigieg, P.L., Pearlman, F., Simpson, P., Barbier, M., Muller-Karger, F.E., Munoz-Mas, C., Pissierssens, P., Chandler, C., Hermes, J., Heslop, E., Jenkyns, R., Achterberg, E.P., Bensi, M., Bittig, H.C., Blandin, J., Bosch, J., Bourles, B., Bozzano, R., Buck, J.J.H., Burger, E.F., Cano, D., Cardin, V., Llorens, M.C., Cianca, A., Chen, H., Cusack, C., Delory, E., Garello, R., Giovanetti, G., Harscoat, V., Hartman, S., Heitsenrether, R., Jirka, S., Lara-Lopez, A., Lantéri, N., Leadbetter, A., Manzella, G., Maso, J., Mccurdy, A., Moussat, E., Ntoumas, M., Pensieri, S., Petihakis, G., Pinardi, N., Pouliquen, S., Przeslawski, R., Roden, N.P., Silke, J., Tamburri, M.N., Tang, H., **Tanhua, T.**, Telszewski, M., Testor, P., Thomas, J., Waldmann, C., and Whoriskey, F. (2019). Evolving and Sustaining Ocean Best Practices and Standards for the Next Decade. *Frontiers in Marine Science* 6.10.3389/fmars.2019.00277
 14. Yamazaki, E., Taniyasu, S., Ruan, Y., Wang, Q., Petrick, G., **Tanhua, T.**, Gamo, T., Wang, X., Lam, P.K.S., and Yamashita, N. (2019). Vertical distribution of perfluoroalkyl substances in water columns around the Japan sea and the Mediterranean Sea. *Chemosphere* 231, 487-494. <https://doi.org/10.1016/j.chemosphere.2019.05.132>
 15. Gruber, N., Clement, D., Carter, B.R., Feely, R.A., van Heuven, S., Hoppema, M., Ishii, M., Key, R.M., Kozyr, A., Lauvset, S.K., Lo Monaco, C., Mathis, J.T., Murata, A., Olsen, A., Perez, F.F., Sabine, C.L., **Tanhua, T.**, Wanninkhof, R., 2019. The oceanic sink for anthropogenic CO₂ from 1994 to 2007. *Science* 363, 1193-1199, doi: 10.1126/science.aau5153.
 16. Li, P., J. Mühle, S. A. Montzka, D. E. Oram, B. R. Miller, R. F. Weiss, P. J. Fraser, and **T. Tanhua** (2019), Atmospheric histories, growth rates and solubilities in seawater and other natural waters of the potential transient tracers HCFC-22, HCFC-141b, HCFC-142b, HFC-134a, HFC-125, HFC-23, PFC-14 and PFC-116, *Ocean Sci.*, 15(1), 33-60, doi:10.5194/os-15-33-2019.
 17. Ebser, S., Kersting, A., Stöven, T., Feng, Z., Ringena, L., Schmidt, M., **Tanhua, T.**, Aeschbach, W., and Oberthaler, M.K. (2018). 39Ar dating with small samples provides new key constraints on ocean ventilation. *Nature Communications* 9, 5046.10.1038/s41467-018-07465-7
 18. Deng, H., Huang, P., **Tanhua, T.**, Stöven, T., Ke, H., Guo, W., et al., 2018. Observations of the intermediate water exchange between the South China Sea and the Pacific Ocean deduced from transient tracer measurements. *Journal of Geophysical Research: Oceans*, 123. <https://doi.org/10.1029/2018JC014103>
 19. Bax, Nicholas J., Appeltans, Ward, Brainard, Russell, Duffy, J. Emmett, Dunstan, Piers, Hanich, Quentin, Harden Davies, Harriet, Hills, Jeremy, Miloslavich, Patricia, Muller-Karger, Frank Edgar, Simmons, Samantha, Aburto-Oropeza, O., Batten, Sonia, Benedetti-Cecchi, Lisandro, Checkley, David, Chiba, Sanae, Fischer, Albert, Andersen Garcia, Melissa, Gunn, John, Klein, Eduardo, Kudela, Raphael M., Marsac, Francis, Obura, David, Shin, Yunne-Jai, Sloyan, Bernadette, **Tanhua, Toste** and Wilkin, John, 2018. Linking Capacity Development to GOOS Monitoring Networks to Achieve Sustained Ocean Observation, *Frontiers in Marine Science*, 5, 346, DOI:10.3389/fmars.2018.00346

20. Rusiecka, D., Gledhill, M., Milne, A., Achterberg, E. P., Annett, A. L., Atkinson, S., Birchill, A., Karstensen, J., Lohan, M., Mariez, C., Middag, R., Rolison, J. M., **Tanhua, T.**, Ussher, S., and Connelly, D.: 2018, Anthropogenic Signatures of Lead in the Northeast Atlantic, *Geophys. Res. Letters*, doi:10.1002/2017GL076825.
21. Achterberg, E. P., Steigenberger, S., Marsay, C. M., LeMoigne, F. A. C., Painter, S. C., Baker, A. R., Connelly, D. P., Moore, C. M., Tagliabue, A., and **Tanhua, T.**, 2018 Iron Biogeochemistry in the High Latitude North Atlantic Ocean, *Scientific Reports*, 8, 1283, doi:10.1038/s41598-018-19472-1.
22. Jullion, L., Jacquet, S. H. M., and **Tanhua, T.**: Untangling biogeochemical processes from the impact of ocean circulation: First insight on the Mediterranean dissolved barium dynamics, *Global Biogeochem Cycles*, 31, doi:10.1002/2016GB005489, 2017.
23. Orr, J. C., Najjar, R. G., Aumont, O., Bopp, L., Bullister, J. L., Danabasoglu, G., Doney, S. C., Dunne, J. P., Dutay, J. C., Graven, H., Griffies, S. M., John, J. G., Joos, F., Levin, I., Lindsay, K., Matear, R. J., McKinley, G. A., Mouchet, A., Oschlies, A., Romanou, A., Schlitzer, R., Tagliabue, A., **Tanhua, T.**, and Yool, A.: Biogeochemical protocols and diagnostics for the CMIP6 Ocean Model Intercomparison Project (OMIP), *Geosci. Model Dev.*, 10, 2169-2199, doi:10.5194/gmd-10-2169-2017, 2017.
24. Anderson, L. G., Björk, G., Holby, O., Jutterström, S., Mörth, C. M., O'Regan, M., Pearce, C., Semiletov, I., Stranne, C., Stöven, T., **Tanhua, T.**, Ulfsbo, A., and Jakobsson, M.: Shelf–Basin interaction along the East Siberian Sea, *Ocean Sci.*, 13, 349-363, doi:10.5194/os-13-349-2017, 2017.
25. Ayache, M., J. C. Dutay, A. Mouchet, N. Tisnérat-Laborde, P. Montagna, **T. Tanhua**, G. Siani, and P. Jean-Baptiste (2017), High-resolution regional modelling of natural and anthropogenic radiocarbon in the Mediterranean Sea, *Biogeosciences*, 14(5), 1197-1213, doi:10.5194/bg-14-1197-2017.
26. Huang, P., and **T. Tanhua**, 2017. Ventilation and anthropogenic CO₂ in the Sulu Sea, *J. Mar. Systems*, 170, 1-9, doi:org/10.1016/j.jmarsys.2017.01.014.
27. Becker, M., Andersen, N., Erlenkeuser, H., Humphreys, M. P., **Tanhua, T.**, and Körtzinger, A., 2016. An internally consistent dataset of δ¹³C-DIC in the North Atlantic Ocean – NAC13v1, *Earth Syst. Sci. Data*, 8, 559-570, 10.5194/essd-8-559-2016.
28. **Tanhua, T.**, Hoppema, M., Jones, E. M., Stöven, T., Hauck, J., Dávila, M. G., Santana-Casiano, M., Álvarez, M., and Strass, V. H., 2017. Temporal changes in ventilation and the carbonate system in the Atlantic sector of the Southern Ocean, *Deep Sea Research Part II*, 138, 23-38, <http://dx.doi.org/10.1016/j.dsr2.2016.10.004>.
29. Fiedler, B., Grundle, D. S., Schütte, F., Karstensen, J., Löscher, C. R., Hauss, H., Wagner, H., Loginova, A., Kiko, R., Silva, P., **Tanhua, T.**, and Körtzinger, A.: Oxygen utilization and downward carbon flux in an oxygen-depleted eddy in the eastern tropical North Atlantic, *Biogeosciences*, 13, 5633-5647, doi:10.5194/bg-13-5633-2016, 2016.
30. Lauvset, S. K., Key, R. M., Olsen, A., van Heuven, S., Velo, A., Lin, X., Schirnack, C., Kozyr, A., **Tanhua, T.**, Hoppema, M., Jutterström, S., Steinfeldt, R., Jeansson, E., Ishii, M., Perez, F. F., Suzuki, T., and Watelet, S.: A new global interior ocean mapped climatology: the 1° × 1° GLODAP version 2, *Earth Syst. Sci. Data*, 8, 325-340, doi:10.5194/essd-8-325-2016, 2016.

31. Olsen, A., Key, R. M., van Heuven, S., Lauvset, S. K., Velo, A., Lin, X., Schirnack, C., Kozyr, A., **Tanhua, T.**, Hoppema, M., Jutterström, S., Steinfeldt, R., Jeansson, E., Ishii, M., Pérez, F. F., and Suzuki, T.: The Global Ocean Data Analysis Project version 2 (GLODAPv2) – an internally consistent data product for the world ocean, *Earth Syst. Sci. Data*, 8, 297-323, doi:10.5194/essd-8-297-2016, 2016.
32. Ji-Young Moon, Kitack Lee, **Toste Tanhua**, Nurit Kress, Il-Nam Kim, 2016. Temporal nutrient dynamics in the Mediterranean Sea in response to anthropogenic inputs. *Geophysical Research Letters*, 2016GL068788, doi:10.1002/2016GL068788.
33. Köllner, M., Visbeck, M., **Tanhua, T.**, Fischer, T., 2016. Diapycnal diffusivity in the core and oxycline of the tropical North Atlantic oxygen minimum zone. *Journal of Marine Systems*, doi:10.1016/j.jmarsys.2016.03.012.
34. Stöven, T., **T. Tanhua**, M. Hoppema, W.J. von Appen, 2016. Transient tracer distributions in the Fram Strait in 2012 and inferred anthropogenic carbon content and transport, *Ocean Science.*, 12, 319-333, doi:10.5194/os-12-319-2016.
35. Stramma, L., Czeschel, R., **Tanhua, T.**, Brandt, P., Visbeck, M., Giese, B.S., 2016. The flow field of the upper hypoxic Eastern Tropical Atlantic oxygen minimum zone. *Ocean Science*, doi:10.5194/os-12-153-2016.
36. Walter, S., Kock, A., Steinhoff, T., Fiedler, B., Fietzek, P., Kaiser, J., Krol, M. C., Popa, M. E., Chen, Q., **Tanhua, T.**, and Röckmann, T., 2016. Isotopic evidence for biogenic molecular hydrogen production in the Atlantic Ocean, *Biogeosciences*, 13 323-340, doi:10.5194/bg-13-323-2016.
37. Jacquet S.H.M., C. Monnin, V. Riou, L. Jullion and **T. Tanhua**, 2016. A high resolution and quasi-zonal transect of dissolved Ba in the Mediterranean Sea. *Marine Chemistry*, 178, 1-7, <http://dx.doi.org/10.1016/j.marchem.2015.12.001>.
38. Talley, L. D., Feely, R. A., Sloyan, B. M., Wanninkhof, R., Baringer, M. O., Bullister, J. L., Carlson, C. A., Doney, S. C., Fine, R. A., Firing, E., Gruber, N., Hansell, D. A., Ishii, M., Johnson, G. C., Katsumata, K., Key, R. M., Kramp, M., Langdon, C., Macdonald, A. M., Mathis, J. T., McDonagh, E. L., Mecking, S., Millero, F. J., Mordy, C. W., Nakano, T., Sabine, C. L., Smethie, W. M., Swift, J. H., **Tanhua, T.**, Thurnherr, A. M., Warner, M. J., and Zhang, J.-Z., 2016. Changes in Ocean Heat, Carbon Content, and Ventilation: A Review of the First Decade of GO-SHIP Global Repeat Hydrography, *Annual Review of Marine Science*, 8, 19.1-19.31, doi:10.1146/annurev-marine-052915-100829.
39. Schroeder, K., **Tanhua, T.**, Bryden, H., Alvarez, M., Chiggiato, J., Aracri, S., 2015. Mediterranean Sea Ship-based Hydrographic Investigations Programme (Med-SHIP), 28(3), 12-15, *Oceanography*, <http://dx.doi.org/10.5670/oceanog.2015.71>.
40. Stöven, T., **T. Tanhua**, M. Hoppema, J.L Bullister, 2015. Perspectives of transient tracer applications and limiting cases. *Ocean Science*, doi: 10.5194/os-11-699-2015.
41. **Tanhua, T.**, Liu, M., 2015. Upwelling velocity and ventilation in the Mauritanian upwelling system estimated by CFC-12 and SF₆ observations, *J. Marine Systems*, 151, 57-70, doi: 10.1016/j.jmarsys.2015.07.002.

42. Lauvset, S., **T. Tanhua**, 2015. A Toolbox for Secondary Quality Control on Ocean Chemistry and Hydrographic Data, *Limnology and Oceanography Methods*, 11601-608, doi: 10.1002/lom3.10050.
43. Brandt, P., Banyte, D., Dengler, M., Didwischus, S.-H., Fischer, T., Greatbatch, R.J., Hahn, J., Kanzow, T., Karstensen, J., Körtzinger, A., Krahnemann, G., Schmidtke, S., Stramma, L., **Tanhua**, T., Visbeck, M., 2015. On the role of circulation and mixing in the ventilation of oxygen minimum zones with a focus on the eastern tropical North Atlantic, *Biogeosciences*, 12, 489-512, doi:10.5194/gb-12-489-2015.
44. A. Ovideo, P. Ziveri, M. Álvarez, **T. Tanhua**, 2015. Is coccolithophore distribution in the Mediterranean Sea related to seawater carbonate chemistry? *Ocean Sci.*, 11, 13-33, doi:10.5194/os-11-13-2015.
45. D. Hainbucher, A. Rubino, V. Cardin, **T. Tanhua**, K. Schröder, M. Bensi, 2014. Hydrographic situation during M84/3 and P414, *Ocean Science*, 10, 669-682, doi:10.5194/os-10-669-2013.
46. Stöven, T., and **Tanhua, T.**: Ventilation of the Mediterranean Sea constrained by multiple transient tracer measurements, *Ocean Sci.*, 10, 439-457, 10.5194/os-10-439-2014, 2014.
47. Malanotte-Rizzoli, P., Artale, V., Borzelli-Eusebi, G. L., Brenner, S., Crise, A., Gacic, M., Kress, N., Marullo, S., Ribera d'Alcalà, M., Sofianos, S., **Tanhua, T.**, Theocharis, A., Alvarez, M., Ashkenazy, Y., Bergamasco, A., Cardin, V., Carniel, S., Civitarese, G., D'Ortenzio, F., Font, J., Garcia-Ladona, E., Garcia-Lafuente, J. M., Gogou, A., Gregoire, M., Hainbucher, D., Kontoyannis, H., Kovacevic, V., Kraskapoulou, E., Kroskos, G., Incarbona, A., Mazzocchi, M. G., Orlic, M., Ozsoy, E., Pascual, A., Poulain, P. M., Roether, W., Rubino, A., Schroeder, K., Siokou-Frangou, J., Souvermezoglou, E., Sprovieri, M., Tintoré, J., and Triantafyllou, G.: Physical forcing and physical/biochemical variability of the Mediterranean Sea: a review of unresolved issues and directions for future research, 2014, *Ocean Sci.*, 10, 281-322, 10.5194/os-10-281-2014.
48. Álvarez, M., Sanleón-Bartolomé, H., **Tanhua, T.**, Mintrop, L., Luchetta, A., Cantoni, C., Schroeder, K., and Civitarese, G., 2014. The CO₂ system in the Mediterranean Sea: a basin wide perspective, *Ocean Sci.*, 10, 69-92, doi:10.5194/os-10-69-2014.
49. Schneider, A., **Tanhua, T.**, Roether, W., and Steinfeldt, R., 2014. Changes in ventilation of the Mediterranean Sea during the past 25 years, *Ocean Sci.*, 10, 1-16, doi:10.5194/os-10-1-2014.
50. **T. Tanhua**, N.R. Bates, A. Körtzinger, 2013. The marine carbon cycle and ocean carbon inventories. Siedler, G., Griffies, S., Gould, J. and Church, J. (Eds.): *Ocean Circulation and Climate*, 2nd Ed. A 21st century perspective, Academic Press, pp 787-815, doi.org/10.1016/B978-0-12-391851-2.00030-1.
51. Z.-T. Lu, P. Schlosser, W.M. Smethie Jr., N.C. Sturchio, T.P. Fischer, B.M. Kennedy, R. Purtschert, J.P. Severinghaus, D.K. Solomon, **T. Tanhua**, R. Yokochi, 2014. Tracer Applications of Noble Gas Radionuclides in the Geoscience, *Earth Science Reviews*, doi.org/10.1016/j.earscirev.2013.09.002.

52. **Tanhua, T.**, Hainbucher, D., Schroeder, K., Cardin, V., Álvarez, M., and Civitarese, G., 2013. The Mediterranean Sea system: a review and an introduction to the special issue, *Ocean Sci.*, 9, 789-803, doi:10.5194/os-9-789-2013.
53. Ziska, F., Quack, B., Abrahamsson, K., Archer, S. D., Atlas, E., Bell, T., Butler, J. H., Carpenter, L. J., Jones, C. E., Harris, N. R. P., Hepach, H., Heumann, K. G., Hughes, C., Kuss, J., Krüger, K., Liss, P., Moore, R. M., Orlikowska, A., Raimund, S., Reeves, C. E., Reifenhäuser, W., Robinson, A. D., Schall, C., **Tanhua, T.**, Tegtmeier, S., Turner, S., Wang, L., Wallace, D., Williams, J., Yamamoto, H., Yvon-Lewis, S., and Yokouchi, Y.: Global sea-to-air flux climatology for bromoform, dibromomethane and methyl iodide, *Atmos. Chem. Phys.*, 13, 8915-8934, doi:10.5194/acp-13-8915-2013, 2013.
54. **T. Tanhua**, Hainbucher, D., Cardin, V., Alvarez, M., Civitarese, G., McNichol, A.P., Key, R.M., 2013. Repeat hydrography in the Mediterranean Sea, data from the Meteor cruise 84/3 in 2011, *Earth System Science Data*, 5, 289-294, doi:10.5194/essd-5-289-2013.
55. Fischer, T., Banyte, D., Brandt, P., Dengler, M., Krahnmann, G., **Tanhua, T.**, Visbeck, M., 2012. Diapycnal oxygen supply to the Tropical North Atlantic oxygen minimum zone, *Biogeoscience*, 10, 5079-5093, doi:10.5194/bg-10-5079-2012.
56. Banyte, D., Visbeck, M., **Tanhua, T.**, Fischer, T., Krahnmann, G., J. Karstensen, 2013. Lateral diffusivity from tracer release experiments in the tropical North Atlantic thermocline. *Journal of Geophysical Research*, 118, 1-15, doi:10.1002/jgrc.20211.
57. Khatiwala, S., **Tanhua, T.**, Mikaloff-Fletcher, S., Greber, M., Doney, S.C., Graven, H.D., Gruber, N., McKinley, G.A., Murata, A., Rios, A., Sabine, C.L., 2013. Global Ocean Storage of anthropogenic carbon, *Biogeosciences*, 10, 2169-2191, doi:10.5194/bg10-2169-2013.
58. **Tanhua, T.**, Waugh, D.W., Bullister, J.L., 2013. Estimating changes in ocean ventilation from the early 1990s CFC-12 and late 2000s SF₆ measurements. *Geophysical Research Letters*, 40, 1-6, doi:10.1002/grl.50251.
59. Velo, A., Pérez, F., **Tanhua, T.**, Gilcoto, M., Ríos, A., Key, R., 2013. Total alkalinity estimation using MLR and neural network techniques, *Journal of Marine Systems*, 111-112, 11-18, doi.org/10.1016/j.jmarsys.2012.09.002.
60. Schneider, A., **Tanhua, T.**, Körtzinger, A., Wallace, D.W.R., 2012. An evaluation of tracer fields and anthropogenic carbon in the equatorial and the tropical North Atlantic, *Deep-Sea Research*, 67, 85-97, doi.org/10.1016/j.dsr.2012.05.007.
61. **Tanhua, T.** and Keeling R.F. Changes in column inventories of carbon and oxygen in the Atlantic Ocean, 2012. *Biogeosciences*, 9, 4819-4833, doi:10.5194/bg-9-4819-2012.
62. Banyte, D., **Tanhua, T.**, Visbeck, M., Wallace, D.W.R., Karstensen, J., Krahnmann, G., Schneider, A., Stramma, L., 2012. Diapycnal Diffusivity at the upper boundary of the North Atlantic oxygen minimum zone, *Journal of Geophysical Research*, 117, C09016, doi:10.1029/2011JC007762.

63. McGrath, T., Kivimae, C., **Tanhua, T.**, Cave, R., McGovern, E., 2012. Inorganic carbon and pH levels in the Rockall Trough 1991 - 2010, *Deep-Sea Research*, 68, 79-91, doi.org/10.1016/j.dsr.2012.05.011.
64. Holtermann, P.L., Umlauf, L., Schmale, O., Rehder, G., **Tanhua, T.**, Waniek, J., 2012. The Baltic Sea Tracer Release Experiment. Part I: Mixing rates, *Journal of Geophysical Research*, 117, C01021, doi:10.1029/2011JC007439.
65. Álvarez, M., **Tanhua, T.**, Brix, H., Lo Monaco, C., Metzl, N., McDonagh, E., Bryden, H.L., 2011. Decadal biogeochemical changes in the western Indian Ocean associated with Subantarctic Mode Water, *Journal of Geophysical Research*, 116, C09016, doi:10.1029/2010JC006475.
66. Lee, K., Sabine, C.L., **Tanhua, T.**, Kim, T-W., Feely, R.A., 2011. Roles of marginal seas in absorbing fossil fuel CO₂. *Energy and environmental science*, 4, 1133, doi:10.1039/C0EE00663G
67. **Tanhua, T.**, Key, R.M., Hoppema, M., Olsen, A., Ishii, M., Sabine, C.L., 2010. Expanding Carbon Data Collection from the Ocean's Interior. *EOS*, 91(48), pp 457-458.
68. Schneider, A., **Tanhua, T.**, Körtzinger, A., Wallace, D.W.R., 2010. High anthropogenic carbon content in the eastern Mediterranean, *Journal of Geophysical Research*, C12050, doi:10.1029/2010JC006171.
69. **Tanhua, T.**, 2010. On the importance of accurate nutrient data on oceanic anthropogenic carbon calculations. In: Comparability of nutrients in the world's ocean: INSS international workshop 10-12 Feb, 2009, Paris. pp 81-90. Editors: M. Aoyama, A. Dickson, D. Hydes, A. Murata, P. Roose and M. Woodward, Mother Tank, Tsukuba, Japan.
70. Pierrot, D., P. Brown, S. van Heuven, **T. Tanhua**, U. Schuster, R. Wanninkhof, R.M. Key, 2010. CARINA TCO₂ data in the Atlantic Ocean, *Earth System Science Data*, 2, 177-187, doi:10.5194/essd-2-177-2010.
71. Anderson, L.G., **Tanhua, T.**, Björk, G., Hjalmarsson, S., Jones, E.P., Jutterström, S., Rudels, B., Swift, J.H., Wahlström, I., 2010. Arctic Ocean shelf – basin interaction, evidence of an active continental shelf CO₂ pump and its impact on the degree of calcium carbonate dissolution. *Deep Sea Research – I*, 57(7), 869-879, doi:10.1016/j.dsr.2010.03.012.
72. Velo, A., F. F. Pérez, X. Lin, R. M. Key, T. Tanhua, M. de la Paz, A. Olsen, S. van Heuven, S. Jutterström, and A. F. Ríos, 2010. CARINA data synthesis project: pH data scale unification and cruise adjustments, *Earth Syst. Sci. Data*, 2, 133-155, doi:10.5194/essd-2-133-2010.
73. Key, R. M., **Tanhua, T.**, Olsen, A., Hoppema, M., Jutterström, S., Schirnack, C., van Heuven, S., Lin, X., Wallace, D. W. R., and Mintrop, L., 2010. The CARINA data synthesis project: introduction and overview, *Earth System Science Data*, 2, 105-121, doi:10.5194/essd-2-105-2010.

74. Jeansson, E., Olsson, K. A., **Tanhua, T.**, and Bullister, J. L., 2010. Nordic Seas and Arctic Ocean CFC Data in CARINA, *Earth System Science Data*, 2, 79-97, doi:10.5194/essd-2-79-2010.
75. Lo Monaco, M., Álvarez, M., Key, R. M., Lin, X., **Tanhua, T.**, Tilbrook, B., Bakker, D. C., van Heuven, S., Hoppema, M., Metzl, N., Ríos, A. F., Sabine, C. L., and Velo, A., 2010. Assessing internal consistency of the CARINA database in the Indian sector of the Southern Ocean, *Earth System Science Data*, 2, 51-70, doi:10.5194/essd-2-51-2010.
76. **Tanhua, T.**, van Heuven, S., Key, R. M., Velo, A., Olsen, A., and Schirnick, C., 2010. Quality control procedures and methods of the CARINA database, *Earth System Science Data*, 2, 35-49, doi:10.5194/essd-2-35-2010.
77. **Tanhua, T.**, Steinfeldt, R., Key, R. M., Brown, P., Gruber, N., Wanninkhof, R., Perez, F., Körtzinger, A., Velo, A., Schuster, U., van Heuven, S., Bullister, J. L., Stendardo, I., Hoppema, M., Olsen, A., Kozyr, A., Pierrot, D., Schirnick, C., and Wallace, D. W. R., 2010. Atlantic Ocean CARINA data: overview and salinity adjustments, *Earth System Science Data*, 2, 17-34, doi:10.5194/essd-2-17-2010.
78. Sabine, C.L., **Tanhua, T.**, 2010. Estimation of Anthropogenic CO₂ Inventories in the Ocean, *Annual Reviews of Marine Science*, 2, 269-92. doi:10.1146/annurev-marine-120308-080947.
79. Steinfeldt, R., **Tanhua, T.**, Bullister, J.L., Key, R.M., Rhein, M., and Köhler, J., 2010. Atlantic CFC data in CARINA, *Earth System Science Data*, 2, 1-15, doi:10.5194/essd-2-1-2010.
80. **Tanhua, T.**, Brown, P., Key, R. M., 2009. CARINA: nutrient data in the Atlantic Ocean, *Earth System Science Data*, 1, 7-24, doi:10.5194/essd-1-7-2009.
81. Velo, A., Perez, F. F., Brown, P., **Tanhua, T.**, Schuster, U., and Key, R. M.: CARINA Alkalinity data in the Atlantic Ocean, *Earth System Science Data*, 1, 45-61, 2009, doi:10.5194/essd-1-45-2009.
82. Hoppema, M., Velo, A., Heuven, S. v., **Tanhua, T.**, Key, R. M., Lin, X., Bakker, D. C. E., Perez, F. F., Ríos, A., Monaco, C. L., Sabine, C. L., Álvarez, M., and Bellerby, R.G.J., 2009. Consistency of cruise data of the CARINA database in the Atlantic sector of the Southern Ocean, *Earth System Science Data*, 1, 63-75, doi:10.5194/essd-1-63-2009.
83. Olsen, A., Key, R. M., Jeansson, E., Falck, E., Olafsson, J., van Heuven, S., Skjelvan, I., Omar, A. M., Olsson, K.a., Anderson, L. G., Jutterström, S., Rey, F., Johannessen, T., Bellerby, R.G.J., Blindheim, J., Bullister, J., Pfeil, B., Lin, X., Schirnick, C., **Tanhua, T.**, and Wallace, D. W. R., 2009. Overview of the Nordic Seas CARINA Data and Salinity, *Earth System Science Data*, 1, 25-34, doi:10.5194/essd-1-25-2009.
84. Stramma, L., Visbeck, M., Brandt, P., **Tanhua, T.**, Wallace, D.W.R., 2009. Deoxygenation in the oxygen minimum zone of the eastern tropical North Atlantic, *Geophysical Research Letters*, 36, L20607, doi:10.1029GL039593.

85. Freing, A., Wallace, D.W.R., **Tanhua, T.**, Walter, S., Bange, H., 2009. North Atlantic Production of Nitrous Oxide in the context of Changing Atmospheric Levels. *Global Biogeochemical Cycles*, 23, GB4015, doi:10.1029/2009GB003472.
86. Alvaréz, M., C. Lo Monaco, **T. Tanhua**, A. Yool, A. Oschlies, J.L. Bullister, C. Goyet, F. Tourtair, E. McDonagh, H.L. Bryden, 2009. Estimating the storage of anthropogenic carbon in the subtropical Indian Ocean: A comparison of five different approaches, *Biogeosciences*, 6, 681-703.
87. Steinfeldt, R., Rhein, M., Bullister, J., **Tanhua, T.**, 2009. Inventory changes of anthropogenic carbon in the Atlantic between 1997 and 2003. *Global Biogeochemical Cycles*, GB3010, doi:10.1029/2008GB003311.
88. **Tanhua, T.**, Jones, E.P., Jeansson, E., Jutterström, S., Smethie, W.M.Jr., Wallace, D.W.R., Anderson, L.G., 2009. Ventilation of the Arctic Ocean: Mean ages and inventories of anthropogenic CO₂ and CFC-11, *Journal of Geophysical Research – Oceans*, 114, C01002, doi:10.1029/2008JC004868.
89. Umlauf, L., **Tanhua, T.**, Waniek, J., Schmale, O., Holtermann, P., Rehder, G., 2008. Hunting a New Oceanic Tracer. *Eos*, 89(43), p419.
90. Messias, M.-J., Watson, A.J., Johannessen, T., Oliver, K.I.C., Olsson, K.A., Fogelqvist, E., Olafsson, J., Bacon, S., Balle, J., Bergman, N., Budéus, G. Danielsen, M., Gascard, J.-C. Jeansson, E., Olafsdottir, S.R., Simonsen, K., **Tanhua, T.**, Van Scoy, K. and Ledwell, J., 2008. The Greenland Sea Tracer Experiment 1996-2002: horizontal mixing and transport of Greenland Sea Intermediate Water. *Progress in Oceanography*, 78, 85-105.
91. Miller, B.R., Weiss, R.F., Salameh, P.K., **Tanhua, T.**, Grealley, B.R., Mühle, J., Simmonds, J.P., 2008. Medusa – a sample preconcentration and GC-MSD system for in situ Measurements of atmospheric trace halocarbons, hydrocarbons and sulfur compounds. *Analytical Chemistry*, 80(5), 1536-1545.
92. **Tanhua, T.**, Waugh, D.W., Wallace, D.W.R., 2008. Use of SF₆ to estimate anthropogenic CO₂ in the upper ocean. *Journal of Geophysical Research – Oceans*, 113, C04037, doi:10.1029/2007JC004416.
93. **Tanhua, T.**, Olsson, K.A., Jeansson, E., 2008. Tracer evidence of the origin and variability of Denmark Strait Overflow Water. In: *Arctic-Subarctic Ocean Fluxes: Defining the role of the Nordic Seas in Climate*, Eds. Bob Dickson, Jens Maincke and Peter Rhines, Springer Verlag, 475-503.
94. **Tanhua, T.**, Körtzinger, A., Friis, K., Waugh, D.W., Wallace, D.W.R., 2007. An estimate of anthropogenic CO₂ inventory from decadal changes in oceanic carbon content. *PNAS*, 104, 9, 3037-3042.
95. **Tanhua, T.**, Biastoch, A., Körtzinger, A., Lüger, H., Böning, C., and Wallace, D.W.R., 2006. Changes of anthropogenic CO₂ and CFCs in the North Atlantic between 1981 and 2004. *Global Biogeochemical Cycles*, GB4017, doi:10.1029/2006GB002695.
96. Grealley, B.R., Simmonds, P.G., O'Doherty, S., McCulloch, A., Miller, B.R., Salameh, P.K., Mühle, J., **Tanhua, T.**, Harth, C., Weiss, R.F., Fraser, P.J., Krummel, P.B., Dunse,

- B.L., Porter, L.W. and Prinn, R.G., 2005. Improved continuous *in situ* measurements of C₁-C₃ PFCs, HFCs, HCFCs, CFCs and SF₆ in Europe and Australia. *Environmental Science*, 2(2-3), 253-261.
97. **Tanhua, T.** and Wallace, D.W.R., 2005. Consistency of TTO-NAS Inorganic Carbon Data with modern measurements. *Geophysical Research Letters*, 32, L14618, doi:10.1029/2005GL032348.
98. **Tanhua, T.**, Bultsiewicz, K. and Rhein, M., 2005. Spreading of Overflow Water from the Greenland to the Labrador Sea. *Geophysical Research Letters*, 32,L10605, doi:10.1029/2002GL0227700.
99. **Tanhua, T.**, Olsson, K.A, Jeansson, E., 2005. Formation of Denmark Strait Overflow Water and its hydro-chemical composition. *Journal of Marine Systems*, 57, 264-288, doi:10.1016/j.jmarsys.2005.05.003.
100. **Tanhua, T.**, Olsson, K.A., 2005. Removal and bio-accumulation of anthropogenic halogenated transient tracers in an anoxic fjord. *Marine Chemistry*, 94/1-4, pp 27-41 doi:10.1016/j.marchem.2004.07.009
101. Olsson K.A., Jeansson, E., **Tanhua, T.**, J-C. Cascard, 2005. The East Greenland Current studied with CFCs and released sulphur hexafluoride. *Journal of Marine Systems*, 55/1-2, 77-95, doi:10.1016/j.jmarsys.2004.07.019.
102. **Tanhua, T.**, Olsson, K.A. and Fogelqvist, E. 2004. A First study of SF₆ as a transient tracer in the Southern Ocean. *Deep Sea Research II*, 51(22-24), 2683-2699.
103. Fogelqvist, E., Blindheim, J., **Tanhua, T.**, Buch, E., Österhus, S., 2003. Greenland-Scotland Overflow studied by hydro-chemical multivariate analysis. *Deep Sea Research I*, 50, 1, pp. 73-102.
104. Watson, A.J., Messias, M.-J., Fogelqvist, E., Van Scoy, K.A., Johannessen, T., Livier, K.I.C., Stevens, P., Rey, F., **Tanhua, T.**, Olsson, A., Carse, F., Simonsen, K., Ledwell, J.R., Jansen, E., Cooper, D.J., Kruepke, J.A., Guilyardi, E., 1999. Mixing in the Greenland Sea gyre studied by tracer release. *Nature*, 401, 902-904.
105. **Tanhua, T.**, Fogelqvist, E., Bastürk, Ö., 1996. Reduction of volatile halocarbons in anoxic seawater, results from a study in the Black Sea. *Marine Chemistry*, 54, 159-170.
106. Fogelqvist, E., **Tanhua, T.**, Salihoglu, I., Bastürk, Ö. 1996. The distribution of some man-made and naturally produced halocarbons in a double layer flow strait system. *Cont. Shelf Res.*, 16(9), 1185-1199.
107. Fogelqvist, E. and **Tanhua, T.**, 1995. Iodinated C1-C4 hydrocarbons released from ice algae in Antarctica. In: Naturally Produced Organohalogens (Eds. A. Grimvall and E.W.B. de Leer) Kluwer Academic Publishers, Dordrecht, The Netherlands, 295-305.
108. Krysell, M., Fogelqvist, E., **Tanhua, T.**, 1994. Apparent Removal of the Transient Tracer Carbon Tetrachloride from Anoxic Seawater. *Geophys. Res. Lett.* 21(23), 2511-2514.
109. Gammelsrod, T., Foldvik, A., Nost, O.A., Skagseth, Ø., Anderson, L.G., Fogelqvist, E., Olsson, K., **Tanhua, T.**, Jones, E.P., Østerhus, S., 1994. Distribution of Water Masses

on the Continental Shelf in the Southern Weddell Sea. In: *The Polar Oceans and Their Role in Shaping the Global Environment*, Eds. R. Muench, and O.M. Johannesson, American Geophysical Union, Washington DC, USA. Geophysical Monograph 84, 159-176.

Reports, non-peer reviewed contributions

1. Becker, S.; Aoyama, M.; Woodward, E.M.S.; Bakker, K.; Coverly, S.; Mahaffey, C. and **Tanhua, T.** (2019) GO-SHIP Repeat Hydrography Nutrient Manual: The precise and accurate determination of dissolved inorganic nutrients in seawater, using Continuous Flow Analysis methods. In: *The GO-SHIP Repeat Hydrography Manual: A Collection of Expert Reports and Guidelines*. Available online at: <http://www.go-ship.org/HydroMan.html>. DOI: <http://dx.doi.org/10.25607/OBP-555>
2. Tanhua, T., Gutekunst, S., O'Donovan, M., Clegg, R., Turner, A-C., Volvo Ocean Race 2017-18 Science Program Final Report, 2018. Available at <http://bit.ly/2BpBAdm>.
3. Broullón, D., Pérez, F. F., Velo, A., Hoppema, M., Olsen, A., Takahashi, T., Key, R. M., González-Dávila, M., **Tanhua, T.**, Jeansson, E., Kozyr, A., and van Heuven, S. M. A. C.: A global monthly climatology of total alkalinity: a neural network approach, *Earth Syst. Sci. Data Discuss.*, <https://doi.org/10.5194/essd-2018-111>, in review, 2018.
4. Orr, J. C., Najjar, R. G., Aumont, O., Bopp, L., Bullister, J. L., Danabasoglu, G., Doney, S. C., Dunne, J. P., Dutay, J. C., Graven, H., Griffies, S. M., John, J. G., Joos, F., Levin, I., Lindsay, K., Matear, R. J., McKinley, G. A., Mouchet, A., Oschlies, A., Romanou, A., Schlitzer, R., Tagliabue, A., **Tanhua, T.**, and Yool, A.: Biogeochemical protocols and diagnostics for the CMIP6 Ocean Model Intercomparison Project (OMIP), *Geosci. Model Dev. Discuss.*, 2016, 1-45, 10.5194/gmd-2016-155, 2016.
5. Anderson, L. G., Björk, G., Holby, O., Jutterström, S., Mörth, C. M., O'Regan, M., Pearce, C., Semiletov, I., Stranne, C., Stöven, T., **Tanhua, T.**, Ulfsbo, A., and Jakobsson, M.: Shelf–Basin interaction along the Laptev – East Siberian Seas, *Ocean Sci. Discuss.*, 2016, 1-26, 10.5194/os-2016-95, 2016.
6. Becker, M., Andersen, N., Erenkeusler, H., Humpreys, M.P., **Tanhua, T.**, Körtzinger, A., 2016. An internally consistent Dataset of $\delta^{13}\text{C}$ -DIC in the North Atlantic Ocean, NAC13v1. *Earth System Science Data Discussions*. doi:10.5194/essd-2016-7.
7. Olsen, A., Key, R. M., van Heuven, S., Lauvset, S. K., Velo, A., Lin, X., Schirnack, C., Kozyr, A., **Tanhua, T.**, Hoppema, M., Jutterström, S., Steinfeldt, R., Jeansson, E., Ishii, M., Pérez, F. F., and Suzuki, T.: An internally consistent data product for the world ocean: the Global Ocean Data Analysis Project, version 2 (GLODAPv2), *Earth Syst. Sci. Data Discuss.*, 2016, 1-78, 10.5194/essd-2015-42, 2016.
8. Lauvset, S. K., Key, R. M., Olsen, A., van Heuven, S., Velo, A., Lin, X., Schirnack, C., Kozyr, A., **Tanhua, T.**, Hoppema, M., Jutterström, S., Steinfeldt, R., Jeansson, E., Ishii, M., Perez, F. F., Suzuki, T., and Watelet, S.: A new global interior ocean mapped climatology: the 1°x1° GLODAP version 2, *Earth Syst. Sci. Data Discuss.*, 2016, 1-30, 10.5194/essd-2015-43, 2016.
9. Stöven, T., **Tanhua, T.**, Hoppema, M., W.-J. von Appen, 2015. Transient tracers in Fram Strait and estimates of anthropogenic carbon transport. *Ocean Science Discussions*, 12, 2189-2229, doi:10.5194/osd-12-2189-2015.

10. Stramma, L., Czeschel, R., **Tanhua, T.**, Brandt, P., Visbeck, M., Giese, B.S., 2015. The flow field of the upper hypoxic Eastern Tropical Atlantic oxygen minimum zone. *Ocean Science Discussions*, doi: 10.5194/OSD-12-2147-2015.
11. Walter, S., Kock, A., Steinhoff, T., Fiedler, B., Fietzek, P., Kaiser, J., Krol, M. C., Popa, M. E., Chen, Q., **Tanhua, T.**, and Röckmann, T., 2015. Isotopic evidence for biogenic molecular hydrogen production in the Atlantic Ocean, *Biogeosciences Discuss.*, 12, 16431-16477, doi:10.5194/bg-12-16431-2015.
12. Key, R.M., A. Olsen, S. van Heuven, S. K. Lauvset, A. Velo, X. Lin, C. Schirnick, A. Kozyr, **T. Tanhua**, M. Hoppema, S. Jutterström, R. Steinfeldt, E. Jeansson, M. Ishi, F. F. Perez, and T. Suzuki. 2015. Global Ocean Data Analysis Project, Version 2 (GLODAPv2), ORNL/CDIAC-162, ND-P093. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, US Department of Energy, Oak Ridge, Tennessee. doi: 10.3334/CDIAC/OTG.NDP093_GLODAPv2.
13. Stöven, T., **T. Tanhua**, M. Hoppema, 2014. Transient tracer applications in the Southern Ocean. *Ocean Science Discussions*, 11, 2289-2335, doi:10.5194/osd-11-2289-2014.
14. **Toste Tanhua**, James C. Orr, Laura Lorenzoni, Lina Hansson, 2015. Monitoring Ocean Carbon and Ocean Acidification. *WMO Bulletin*, 64(1).
15. Peter Brandt, Donata Banyte, Marcus Dengler, Sven-Helge Didwischus, Tim Fischer, Richard J. Greatbatch, Johannes Hahn, Torsten Kanzow, Johannes Karstensen, Arne Körtzinger, Gerd Krahnemann, Sunke Schmidtke, Lothar Stramma, **Toste Tanhua**, Martin Visbeck, 2014. On the role of circulation and mixing in the ventilation of oxygen minimum zones with a focus on the eastern tropical North Atlantic, *Biogeosciences Discussions*, 11, 12069-12136, doi:10.5194/gbd-11-12069-2014.
16. A. Ovideo, P. Ziveri, M. Álvarez, **T. Tanhua**, 2015. Is coccolithophore distribution in the Mediterranean Sea related to seawater carbonate chemistry? *Ocean Sci. Discuss.*, 11, 613-653, doi:10.5194/osd-11-613-2014.
17. **T. Tanhua**, 2014. Oxygen Supply Tracer Release Experiment (OSTRE) - Cruise No. M97 – May 25 – June 28, 2013 – Mindelo (Cape Verde) – Fortaleza (Brazil). METEOR-Berichte, M97, 44 pp., DFG-Senatskommission für Ozeanographie, DOI:10.2312/cr_m97T.
18. D. Hainbucher, A. Rubino, V. Cardin, **T. Tanhua**, K. Schröder, M. Bensi, 2013. Hydrographic situation during M84/3 and P414, *Ocean Science Discussions*, 10, 2399-2432, doi:10.5194/osd-10-2399-2013.
19. Malanotte-Rizzoli, P., Artale, V., Borzelli-Eusebi, G. L., Brenner, S., Civitarese, G., Crise, A., Font, J., Gacic, M., Kress, N., Marullo, S., Ozsoy, E., Ribera d'Alcalà, M., Roether, W., Schroeder, K., Sofianos, S., **Tanhua, T.**, Theocharis, A., Alvarez, M., Ashkenazy, Y., Bergamasco, A., Cardin, V., Carniel, S., D'Ortenzio, F., Garcia-Ladona, E., Garcia-Lafuente, J. M., Gogou, A., Gregoire, M., Hainbucher, D., Kontoyannis, H., Kovacevic, V., Krasakapoulou, E., Krokos, G., Incarbona, A., Mazzocchi, M. G., Orlic, M., Pascual, A., Poulain, P.-M., Rubino, A., Siokou-Frangou, J., Souvermezoglou, E., Sprovieri, M., Taupier-Letage, I., Tintoré, J., and Triantafyllou, G.: Physical forcing and physical/biochemical variability of the Mediterranean Sea: a review of unresolved issues and directions for future research, *Ocean Sci. Discuss.*, 10, 1-16, doi:10.5194/osd-10-1205-2013, 2013.

20. **T. Tanhua (2013)** Repeat hydrography in the Mediterranean Sea - Cruise No. M84/3 -April 5 - April 28, 2011, Istanbul (Turkey) - Vigo (Spain). METEOR-Berichte, M84/3, 48 pp.,DFG-Senatskommission für Ozeanographie, DOI:10.2312/cr_m84_3.
21. Stöven, T., **Tanhua, T.**, 2013. Ventilation of the Mediterranean Sea constrained by multiple transient tracer measurements, *Ocean Sci, Discuss.*, 5, 1647 - 1705, doi:10.5194/osd-10-1647-2013.
22. D. Wallace, **T. Tanhua**, D. Banyte, T. Dippe, F. Karbe, R. Link, P. Silva, J. Franz, T. Hansen, H. Hauss, K. Nachtigall, D. Franzke, J. Fuessel, T. Kalvelage, T. Fischer, D. Gill, T. Grosskopf, F. Joshi, C. Loescher, A. Kock, K. Stange, O. Baars, A. Dammshaeuser, A. Manke, L. Noll, S. Syre, J. Zocher, A. Raeke (2013) Guinea Upwelling Tracer Release Experiment – Cruise No. M80/2 – November 26 – December 22, 2009 – Mindelo (Cape Verde) – Dakar (Senegal). METEOR-Berichte, M80/2, 33 pp., DFG-Senatskommission für Ozeanographie, doi:10.2312/cr_m80_2.
23. **T. Tanhua**, D. Hainbucher, V. Cardin, M. Alvarez, G. Civitarese, 2013. Repeat hydrography in the Mediterranean Sea, data from the Meteor cruise 84/3 in 2011, *Earth System Science Data Discussions*, 6, 59-71, doi:10.5194/essdd-6-59-2013.
24. **T. Tanhua**, D. Hainbucher, K. Schröder, V. Cardin, M. Alvarez, G. Civitarese, 2013. The Mediterranean Sea system: a review and an introduction to the special issue, *Ocean Sciences Discussions*, 10, 581-617, doi:10.5194/osd-10-581-2013.
25. Ziska, F., B. Quack, K. Abrahamsson, S. D. Archer, E. Atlas, T. Bell, J. H. Butler, L. Carpenter, N. R. P. Harris, H. Hepach, K. G. Heumann, C. Hughes, J. Kuß, K. Krüger, P. Liss, R. Moore, A. Orlikowska, S. Raimund, C. Reeves, W. Reifenhäuser, **T. Tanhua**, S. Tegtmeier, S. Turner, L. Wang, D. Wallace, J. Williams, H. Yamamoto, S. Yvon-Lewis, Y. Yokouchi, 2013. Global sea-to-air flux climatology for bromoform, dibromomethane and methyl iodide, *Atmospheric Chemistry and Physics Discussions*, 13, 5601 – 5648, doi:10.5194/acpd-13-5601-2013.
26. Tanhua, T., M. Alvarez and L.Mintrop. 2012. Carbon Dioxide, Hydrographic, and Chemical Data Obtained During the R/V Meteor MT84_3 Mediterranean Sea Cruise (April 5. - April 28, 2011). http://cdiac.ornl.gov/ftp/oceans/CLIVAR/Met_84_3_Med_Sea/. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, US Department of Energy, Oak Ridge, Tennessee. doi: 10.3334/CDIAC/OTG.CLIVAR_06MT20110405
27. Fischer, T.,Banyte, D., Brandt, P., Dengler, M., Krahnemann, G., **Tanhua, T.**, Visbeck,M., 2012. Diapycnal oxygen supply to the Tropical North Atlantic oxygen minimum zone, *Biogeoscience Discussions*, 9, 14291-14325, doi:10.5194/bgd-9-14291-2012.
28. Malanotte-Rizzoli P. and the Pan-Med Group. 2012 Physical forcing and physical/biochemical variability of the Mediterranean Sea: A review of unresolved issues and directions of future research. Report of the Workshop “Variability of the Eastern and Western Mediterranean circulation and thermohaline properties : similarities and differences” Rome,7-9 November, 2011, 48 pp.
29. Khatiwala, S., **Tanhua, T.**, Mikaloff-Fletcher, S., Greber, M., Rios, A., Murata, A., Graven, H.D., Sabine, C., McKinley, G., Sarmiento, J.J., Doney, S.C., Gruber, N., 2012. Global

Ocean Storage of anthropogenic carbon, *Biogeosciences Discussions*, 9, 8931-8988, doi:10.5194/bgd-9-8931-2012.

30. **Tanhua, T.** and Keeling R.F. Changes in column inventories of carbon and oxygen in the Atlantic Ocean, 2012. *Biogeosciences Discussions*, 9, 8039–8073, doi:10.5194/bgd-9-8039-2012.
31. **Tanhua, T.** Ideas for a repeat hydrography program in the Mediterranean Sea based on the GO-SHIP framework, 2012. CIESM Workshop Monographs #43, 23-29, Eds. F. Briand, 164 pages, Monaco.
32. **Tanhua, T.**, A. Körtzinger, P. Brandt. 2011. Carbon Dioxide, Hydrographic, and Chemical Data Obtained During the R/V Meteor Cruise 68/2 in the tropical Atlantic Ocean (June 6 - July 9, 2006). http://cdiac.ornl.gov/ftp/oceans/CLIVAR/Met_68_2.data/. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, US Department of Energy, Oak Ridge, Tennessee. doi:10.3334/CDIAC/otg.Met_68_2_2006.
33. **T. Tanhua**, 2011. An update of the interior ocean carbon observations. SOLAS newsletter, issue 24, p24.
34. **Tanhua, T.** 2010. Matlab Toolbox to Perform Secondary Quality Control (2nd QC) on Hydrographic Data. ORNL/CDIAC-158. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee. doi:10.3334/CDIAC/otg.CDIAC_158
35. Aoyama, M., Hydes, D. Daniel, A., Bakker, K., Murata, A., **Tanhua, T.** and Woodward, E. M. S., First Meeting of the joint IOC-ICES Study Group on Nutrient Standards (SGONS); IOC Reports of Meetings of Experts and Equivalent Bodies, 223. UNESCO 2010. (English).
36. Michio Aoyama, Carol Anstey, Janet Barwell-Clarke, Francois Baurand, Susan Becker, Marguerite Blum, Stephen C. Coverly, Edward Czobik, Florence d'Amico, Ingela Dahllof, Minhan Dai, Judy Dobson, Olivier Pierre-Duplessix, Magali Duval, Clemens Engelke, Gwo-Ching Gong, Olivier Grosso, Atsushi Hirayama, Hiroyuki Inoue, Yuzo Ishida, David J. Hydes, Hiromi Kasai, Roger Kerouel, Marc Knockaert, Nurit Kress, Katherine A. Kroglund, Masamitsu Kumagai, Sophie C. Leterme, Claire Mahaffey, Hitoshi Mitsuda, Pascal Morin, Thierry Moutin, Dominique Munaron, Akihiko Murata, Gunther Nausch, Hiroshi Ogawa, Jan van Ooijen, Jianming Pan, Georges Paradis, Chris Payne, Gary Prove, Patrick Raimbault, Malcolm Rose, Kazuhiro Saito, Hiroaki Saito, Kenichiro Sato, Cristopher Schmidt, Monika Schutt, Theresa M. Shammon, Solveig Olafsdottir, Jun Sun, **Toste Tanhua**, Sieglinde Weigelt-Krenz, Linda White, E. Malcolm S. Woodward, Paul Worsfold, Takeshi Yoshimura, Agnes Youenou, Jia-Zhong Zhang. 2008 Inter-laboratory Comparison Study of a Reference Material for Nutrients in Seawater, Technical Reports of the Meteorological Research Institute No. 60, Japan, ISSN 0386-4049.
37. Hydes, D.J., Aoyama, M., Aminot, A., Bakker, K., Becker, S., Coverly, S., Daniel, A., Dickson, A.D., Grosso, O., Kerouel, R., van Ooijen, J., Sato, K., **Tanhua, T.**, Woodward, E.M.S., and Zhang, J.Z., 2010. Recommendations for the Determination of Nutrients in Seawater to High Levels of Precision and Inter-Comparability using Continuous Flow Analysers, *Global Repeat Hydrography Program Manual*, IOCCP Report No. 14., ICPO Publication Series No., 134, Version 1, 2010.

38. Bullister, J.L., and Tanhua, T., 2010. Sampling and Measurement of Chlorofluorocarbon and Sulfur Hexafluoride in Seawater, *Global Repeat Hydrography Program Manual, IOCCP Report No. 14.*, ICPO Publication Series No., 134, Version 1, 2010
39. Steinfeldt, R., **Tanhua, T.**, Rhein, M., Bullister, J. L., Wallace, D. W. R., and Köhler, J., 2009. Atlantic CFC data in CARINA, *Earth System Science Data Discussions*, 2, 27-61.
40. **Tanhua, T.**, Brown, P., Key, R. M., 2009. CARINA: nutrient data in the Atlantic Ocean, *Earth System Science Data Discussions*, 2, 63-101.
41. Intergovernmental Oceanographic Commission of UNESCO and the International CLIVAR Project Office. Hood, M. (ed.), *Ship-based Repeat Hydrography: A Strategy for a Sustained Global Programme.* (IOC Technical Series, 89. IOCCP Reports, 17. ICPO Publication 142.) UNESCO, 2009.
42. **Tanhua, T.**, Steinfeldt, R., Key, R. M., Brown, P., Gruber, N., Wanninkhof, R., Perez, F., Körtzinger, A., Velo, A., Schuster, U., van Heuven, S., Bullister, J. L., Stendardo, I., Hoppema, M., Olsen, A., Kozyr, A., Pierrot, D., Schirnack, C., and Wallace, D. W. R., 2009. Atlantic Ocean CARINA data: overview and salinity adjustments, *Earth System Science Data Discussions*, 2, 241-280.
43. **Tanhua, T.**, van Heuven, S., Key, R. M., Velo, A., Olsen, A., and Schirnack, C., 2009. Quality control procedures and methods of the CARINA database, *Earth System Science Data Discussions*, 2, 205-240.
44. Velo, A., Perez, F. F., Brown, P., **Tanhua, T.**, Schuster, U., and Key, R. M.: CARINA Alkalinity data in the Atlantic Ocean, *Earth System Science Data Discussions*, 2, 137-180, 2009.
45. Pierrot, D., P. Brown, S. van Heuven, **T. Tanhua**, U. Schuster, R. Wanninkhof, R.M. Key, 2009. CARINA TCO₂ data in the Atlantic Ocean, *Earth System Science Data Discussions*, 3, 1-26.
46. Velo, A., F.F. Pérez, X. Lin, R.M. Key, **T. Tanhua**, M. de la Paz, S. van Heuven, S. Jutterström, A.F. Rios, 2009. CARINA synthesis project: pH data scale unification and cruise adjustments, *Earth System Science Data Discussions*, 2, 421-475.
47. Hoppema, M., Velo, A., Heuven, S. v., **Tanhua, T.**, Key, R. M., Lin, X., Bakker, D. C. E ., Perez, F. F., Ríos, A., Monaco, C. L., Sabine, C. L., Álvarez, M., and Bellerby, R.G.J., 2009. Consistency of cruise data of the CARINA database in the Atlantic sector of the Southern Ocean, *Earth System Science Data Discussions*, 2, 331-365.
48. Olsen, A., Key, R. M., Jeansson, E., Falck, E., Olafsson, J., van Heuven, S., Skjelvan, I., Omar, A. M., Olsson, K.a., Anderson, L. G., Jutterström, S., Rey, F., Johannessen, T., Bellerby, R.G.J., Blindheim, J., Bullister, J., Pfeil, B., Lin, X., Schirnack, C., **Tanhua, T.**, and Wallace, D. W. R., 2009. Overview of the Nordic Seas CARINA Data and Salinity, *Earth System Science Data Discussions*, 2, 1-25.
49. Jeansson, E., Olsson, K. A., **Tanhua, T.**, and Bullister, J. L., 2009. Nordic Seas and Arctic Ocean CFC Data in CARINA, *Earth System Science Data Discussions*, 2, 493-536.

50. Key, R. M., **Tanhua, T.**, Olsen, A., Hoppema, M., Jutterström, S., Schirnack, C., van Heuven, S., Lin, X., Wallace, D. W. R., and Mintrop, L.: The CARINA data synthesis project: Introduction and overview, *Earth System Science Data Discussions*, 2, 579-624, 2009.
51. Lo Monaco, M., Álvarez, M., Key, R. M., **Tanhua, T.**, Tilbrook, B., Bakker, D. C., van Heuven, S., Hoppema, M., Metzl, N., Ríos, A. F., Sabine, C. L., and Velo, A., 2009. Assessing internal consistency of the CARINA database in the Indian sector of the Southern Ocean, *Earth System Science Data Discussions*, 2, 367-419.
52. Integrated assessment of the European and North Atlantic Carbon Balance – key results, policy implications for post 2012 and research needs -, 2009. Eds: Schulze, Heinze, Gash, Volbers, Freibauer, Kentarchos. Doi: 10.2777/31254.
53. **T. Tanhua**, A. Olsen, M. Hoppema, S. Jutterström, C. Schirnack, S. van Heuven, A. Velo, X. Lin, A. Kozyr, M. Alvarez, D.C.E. Bakker, P. Brown, E. Falck, E. Jeansson, C. Lo Monaco, J. Olafsson, F.F. Perez, D. Pierrot, A.F. Rios, C.L. Sabine, U. Schuster, R. Steinfeldt, I. Stendardo, L.G. Anderson, N.R. Bates, R.G.J. Bellerby, J. Blindheim, J.L. Bullister, N. Gruber, M. Ishii, T. Johannessen, E.P. Jones, J. Köhler, A. Körtzinger, N. Metzl, A. Murata, S. Musielewicz, A.M. Omar, K.A. Olsson, M. de la Paz, B. Pfeil, F. Rey, M. Rhein, I. Skjelvan, B. Tilbrook, R. Wanninkhof, L. Mintrop, D.W.R. Wallace, R.M. Key, 2008. Carina Data Synthesis Project, ORNL/CDIAC-157, NDP-091, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U. S. Department of Energy, Oak Ridge, TN, USA.
54. M. Aoyama, J. Barwell-Clarke, S. Becker, M. Blum, E. D. S. Braga, S. C. Coverly, E. Czobik, I. Dahllöf, M. Dai, G. O'Donnell, C. Engelke, Gwo-Ching Gong, Gi-Hoon Hong, D. J. Hydes, Ming-Ming Jin, H. Kasai, R. Kerouel, Y. Kiyomono, M. Knockaert, N. Kress, K. A. Kroglund, M. Kumagai, S. Leterme, G. Low, S. Masuda, T. Miyao, T. Moutin, A. Murata, N. Nagai, G. Nausch, M. K. Ngirchchol, A. Nybakk, H. Ogawa, J. V. Ooijen, H. Ota, J. Pan, C. Payne, O. Pierre-Duplessix, M. Pujo-Pay, T. Raabe, K. Saito, K. Sato, C. Schmidt, M. Schuett, T. M. Shammon, J. Sun, **T. Tanhua**, L. White, M. Woodward, P. Worsfold, P. Yeats, T. Yoshimura, A. Youénu, Jia-Zhong Zhang, 2009. 2006 Inter-comparison Study for Reference Material for Nutrients in Seawater, Technical Reports of the Meteorological Institute No. 58, Japan.
55. Dengler, M., J. Schafstall, **T. Tanhua**, B. Fiedler, G. Krahnmann and U. Löptin, 2008. FS Poseidon Fahrtbericht / Cruise Report P347: Mauritanian Upwelling and Mixing Process Study, IFM-GEOMAR Report No. 16, Leibniz Institute for Marine Sciences, 34 pp.
56. **Tanhua, T.**, Olsson, K.A. A note on the Oxygen Flux in the Deep Northern Overflows. ASOF Newsletter, No.5, April 2006.
57. Messias, M-J., Watson, A.J., Fogelqvist, E., VanScoy, K.A., **Tanhua, T.**, Olsson, K.A., 1999. The tracer release experiment, in 'The Thermohaline Circulation in the Greenland Sea, ESOP-2, Final Scientific Report', Bergen, Norway, 1999.
58. Fogelqvist, F., Olsson, K.A., **Tanhua, T.**, 1998. Transient tracers along 6°E in the Southern Ocean, in *The Polar Research Secretariat, Årsbok 1998*, Stockholm, Sweden.

59. Anderson, L.G., Fogelqvist, E., Hulth, S., Olsson, K, **Tanhua, T.**, Tengberg, A, Zemlyak, F., 1997. Chemical composition of water masses and interactions with the sediment in the southern Weddell Sea, in *Norsk Polarinstituts Rapportserie*.
60. Blindheim, J., Buch, E., Fogelqvist, E., **Tanhua, T.**, Østerhus, S., 1996. The R/V Johan Hjort 1994 NORDIC WOCE cruise: On hydrography and tracers. *ICES C.M. 1996/O:20*
61. Anderson, L.G., Fogelqvist, E., Hult, S., Olsson, K., **Tanhua, T.**, Tengberg, A., Zemlyak, F., 1995. Water Masses and Their Chemical Characteristics in the Southern Weddell Sea, in *Swedish Antarctic Research Programme 1992/93, A Cruise Report*. Ed. M.L. Carlsson. The Swedish polar Research Secretariat, Stockholm.

Presentations at seminars and conferences

1. Lorenza Raimondi, **Toste Tanhua**, Kumiko Azetsu-Scott, Igor Yashayaev and Douglas Wallace, 2020. Multi-decadal variability of anthropogenic and natural carbon in central Labrador Sea, *AGU Ocean Sciences Meeting*, San Diego, February 17-21, 2020.
2. Martin Visbeck, Marcus Dengler, **Toste Tanhua** and Madeleine Freund, 2020. Mixing and Upwelling Dynamics along the Continental Slope off Peru inferred from Tracer Release, Hydrographic and Microstructure Measurements. *AGU Ocean Sciences Meeting*, San Diego, February 17-21, 2020.
3. Kersting A, Ebser S, Feng Z, Ringena L, Schmidt M, Robertz J, Stöven T, **Tanhua T**, Kieke D, Steinfeldt R, Aeschbach W & Oberthaler MK, 2019. First Results and Potential of Ar-39 by Argon Trap Trace Analysis in the Tropical and Subpolar North Atlantic, *Goldschmidt 2019*, Barcelona, August 18-23, 2019.
4. Stöven T & **Tanhua T**, 2019. Arctic Ocean – Ventilation Shadow Zones in the Siberian Shelf Seas, *Goldschmidt 2019*, Barcelona, August 18-23, 2019.
5. Visbeck, M., Dengler, M., **Tanhua, T.**, Lüdke, J., Freund, M., 2019. Diapycnal mixing, upwelling and density fluxes at the continental slope off Peru inferred from tracer release and microstructure measurements. *27th IUGG General Conference*, Montreal, Canada, July 8-18, 2019.
6. Eide, Marie; Olsen, Are; Frøb, Friederike; Becker, Meike; Mørkved, Pål Tore; Stöven, Tim; **Tanhua, Toste**; Jeansson, Emil, 2017. *ICDC-10*, Interlaken, August 21-25, 2017.
7. Gruber, Nicolas; Clement, Dominic; Landschützer, Peter; **Tanhua, Toste**; Ishii, Masao; Mathis, Jeremy T.; Bakker, Dorothee; Feely, Richard A.; Key, Robert M.; Olsen, Are; van Heuven, Steven; Wanninkhof, Rik, 2017. Invited Keynote: Recent variability and trends in the global ocean carbon sink, *ICDC-10*, Interlaken, August 21-25, 2017.
8. Insa Rapp, Christian Schlosser, Thomas J. Browning, Frédéric A.C. Le Moigne, **Toste Tanhua**, Martha Gledhill, Eric P. Achterberg, 2017. Iron biogeochemistry in the Peruvian oxygen minimum zone during the 2015/16 El Niño. *Goldschmidt Conference*, Paris, August 13-18, 2017
9. **T. Tanhua**. Ocean aspects of the GCOS Implementation Plan 2016: Connection to climate information and services for adaptation and mitigation and the SDGs, *COP-22*, Marrakech, November 8, 2016.

10. M. Álvarez , H. Sanleón-Bartolomé , A. Velo , **T. Tanhua** and T. Lovato. Carbon, ancillary and tracer data in the MedSea: Compilation and quality control, *CIESM congress*, Kiel, September 2016.
11. **Toste Tanhua**, Robert M. Key, Ann McNichol. Carbon isotopes in the Mediterranean Sea, *CIESM congress*, Kiel, September 2016.
12. **Toste Tanhua**, Miroslav Gacic, Guisepe Civitarese, Loic Jullion, Vedrana Kovacevic, Katrin Schroeder H.L. Bryden, M. Alvarez, J. Chiggiato, S. Aracri. MED-SHIP: First preliminary results of the recently completed first repeat cycle, *CIESM congress*, Kiel, September 2016.
13. T. Stöven, **T. Tanhua**, M. Hoppema, W.-J. von Appen, 2016. Transient Tracers in the Fram Strait – Excess SF₆ and anthropogenic carbon transport. *13th ASOF-ISGG Meeting*, Lerici, Italy, March 2016
14. **T. Tanhua**, M. Telszewski, R. Wanninkhof, 2016. A New Look at the Ocean Biogeochemistry ECVs, *GCOS Science conference*, March 2-4, 2016, Amsterdam.
15. Mark A. Bourassa, **Toste Tanhua**, Carol Anne Clayson, Jim Edson, Sarah T. Gille, Sergy K. Gulev, Johnny Johannessen, Simon A. Josey, Masahisa Kubota, Matt Mazloff, Seb Swart, Brain Ward, Bob Weller, Lisan Yu, 2016. Roles of Air/Sea Exchange in the Cycles of Energy, Moisture and CO₂, *GCOS Science conference*, March 2-4, 2016, Amsterdam.
16. A. Bombell, J.H. Butler, J.G. Canadell, P. Ciais, P. De Cola, A.J. Dolman, W.L. Kutsch, H. Loescher, H. Muraoka, A. Obregón, S.E. Plummer, N. Saigusa, R.J. Scholes, **T. Tanhua**, M. Telszewski, A.T. Vermeulen, L. Yi, 2016. The GEO Carbon and GHG Flagship, *GCOS Science conference*, March 2-4, 2016, Amsterdam.
17. Anderson, L., S. Jutterström, T. Stöven, G. Björk, O. Holby, M. Jakobsson, I. Semiletov, **T. Tanhua**, A. Ulfso, 2016. Shelf –Basin exchange along the Laptev – East Siberian Seas, *Ocean Science Meeting*, New Orleans, USA, Feb 2016.
18. **Tanhua, T.**, K. Schroeder, D. Hainbucher, M. Alvarez, V. Cardin, G. Civitarese , H. Bryden, J. Chiggiato, 2016. 30 Years of Repeat Hydrography in the Mediterranean, *Ocean Science Meeting*, New Orleans, USA, Feb 2016.
19. Gruber, N., D. Clement, P. Landschutzer, **T. Tanhua**, M. Ishii, J. Mathis, D. Bakker, R. Wanninkhof, A. Olsen, R. Key, S. van Heuven, 2016. Toward a global synthesis of the oceanic carbon sink since the mid 1990s. *Ocean Science Meeting*, New Orleans, USA, Feb 2016.
20. Visbeck, M., **T. Tanhua**, D. Banyte, M. Köllner, 2016. Circulation and Mixing in the Core and Oxycline of the Tropical North Atlantic Oxygen Minimum Zone as inferred from two TREs. *Ocean Science Meeting*, New Orleans, USA, Feb 2016.
21. **Tanhua, T.** 2016. Open Ocean Tracer Release Experiment; results from the Eastern Tropical North Atlantic. *Ocean Seminars Series*, Dalhousie University, Halifax, Canada.
22. **Tanhua, T.**, 2015. Changes of ventilation in the Mediterranean Sea. *Teleconnections and Hemispheric-scale impacts of the Mediterranean Sea*, Venice, November 25-26, 2015.

23. Alvaréz, M., **Tanhua, T.**, Sanleón-Bartolomé, H., 2015. Inorganic and anthropogenic carbon chemistry in the Mediterranean Sea. *26th IUGG General Assembly*, Prague, June 22- July 2, 2015.
24. **Tanhua, T.**, Stöven T., 2015. Constraining ocean ventilation with ³⁹Ar measurements. *Second international workshop on Tracer Applications of Nobel Gas Radionuclides in the Geosciences*, Mars 26-29, 2015, Heidelberg.
25. **Tanhua, T.**, Telszewski, M, 2015. Indicators and Variables. *3rd GEOSS Science and Technology Stakeholder Workshop*, March 23-25, 2015, Norfolk, VA, USA
26. **Tanhua, T.**, Álvarez, M. Carbon cycle in the Mediterranean Sea. *2nd workshop on Marginal Seas in Change*, September 24-26, 2014, Busan, Korea. Invited.
27. Moon, J.Y., Lee, K., Kim, I.N., **Tanhua, T.**, Kim, T.W. Anthropogenic impact on Nitrogen Cycle in Mediterranean Sea. *2nd workshop on Marginal Seas in Change*, September 24-26, 2014, Busan, Korea.
28. Are Olsen, Robert M. Key, Siv K. Lauvset, Xiaohua Lin, **Toste Tanhua**, Steven van Heuven, Mario Hoppema, Sara Jutterström, Reiner Steinfeldt, Emil Jeansson, Masao Ishii, Toru Suzuki, Anton Velo, Alexander Kozyr, Benjamin Pfeil, Carsten Schirnick. Presenting GLODAPv2, ocean biogeochemical time trends and future plans. *IMBER Open Science Conference*, Bergen, June 13-27, 2014.
29. Nicolas Gruber, Dominic Clement, Peter Landschützer, **Toste Tanhua**, Masao Ishii, Jeremy T. Mathis, A. Lenton, Dorothee Bakker, Rik Wanninkhof, Are Olsen. Toward a global synthesis of the oceanic carbon sink since the mid 1990s. *IMBER Open Science Conference*, Bergen, June 13-27, 2014.
30. **Toste Tanhua**, Reiner Steinfeldt, Emil Jeansson. Transient tracer data in the GLODAPv2 data collection to estimate the decadal increase of anthropogenic CO₂ in the global ocean. *IMBER Open Science Conference*, Bergen, June 13-27, 2014.
31. Siv K. Lauvset, Are Olsen, Robert M. Key, Xiaohua Lin, **Toste Tanhua**, Mario Hoppema, Sara Jutterström, Reiner Steinfeldt, Emil Jeansson, Steven van Heuven, Masao Ishii, Toru Suzuki, Anton Velo, Alexander Kozyr, Benjamin Pfeil, Carsten Schirnick. Evaluation of changes in global pH and CaCO₃ from WOCE to CLIVAR. *IMBER Open Science Conference*, Bergen, June 13-27, 2014.
32. T. Tanhua, and Telezewski, 2014. Towards Essential Ocean Variables for Biogeochemistry. *GOOS Webinar series*, June 17, 2014.
33. M.Köllner, D Banyte, **T. Tanhua**, M. Visbeck, 2014. The Oxygen Supply Tracer Release Experiment in the tropical North East Atlantic Oxygen Minimum Zone, *46th International Liege Colloquium on Ocean Dynamics*, Liege, May, 2014.
34. Banyte, D., Visbeck, M., **Tanhua, T.**, Fishcer, T., Brandt, P., 2014. Ventilation of the Eastern Tropical Atlantic Oxygen minimum Zone by mesoscale eddy stirring and tropical zonal jets. Ocean Science Meeting, Honolulu, Feb 20-14, 2014.
35. Gruber, N., Clement, D., **Tanhua, T.**, Ishii, M., Mathis, J., 2014. The ocean sink for anthropogenic CO₂ since the mid-1990s. Ocean Science Meeting, Honolulu, Feb 20-14, 2014.

36. Peng Huang, **Toste Tanhua**, 2014. Ventilation and anthropogenic CO₂ in the Sulu Sea. *The first Xiamen Symposium on Marine Environmental Sciences*, Xiamen, Jan. 9-11, 2014
37. Visbeck, D. Banyte, P. Brandt, M. Dengler, T. Fischer, J. Karstensen, G. Krahlmann, **T. Tanhua**, L. Stramma, Dynamics of tropical oxygen minimum zones (OMZ): The role of vertical mixing and eddy stirring in ventilating the OMZ in the tropical Atlantic. AGU Fall meeting, San Francisco, Dec 2013.
38. **T. Tanhua**, D. Hainbucher, K. Schroeder, V. Cardin, M. Álvarez and G. Civitarese, 2013. Almost synoptic observations of mediterranean sea properties during spring of 2011. CIESM Congress, Marseille, October 28 – November 1, 2013.
39. M. Álvarez, H. Sanleón, **T. Tanhua**, L. Mintrop and G. Civitarese, 2013. The CO₂ system in the Mediterranean Sea: a basin-wide perspective. MEDOCEAN, Barcelona, 25-29 November, 2013.
40. M. Álvarez, H. Sanleón, **T. Tanhua**, L. Mintrop and G. Civitarese, 2013. The CO₂ system in the Mediterranean Sea: a basin-wide perspective. CIESM Congress, Marseille, October 28 – November 1, 2013.
41. Lars-Eric Heimbürger, Jeroen Sonke, David Point, Laure Laffont, Christelle Lagane, Frederic Candaudap, Daniel Cossa, Bastien Thomas, Eleni Stathopoulou, **Toste Tanhua**. Methylmercury distributions in contrasted basins - results of the 2011 Mediterranean GOSHIP cruise, CIESM Congress, Marseille, October 28 – November 1, 2013.
42. T. Stoeven, **T. Tanhua**, A. Schneider, W. Roether, 2013. Changes in ventilation in a view of transient tracers time series and a constrained transit time distribution model, CIESM Congress, Marseille, October 28 – November 1, 2013.
43. **T. Tanhua**. Towards a sustained global ocean observing network for marine biogeochemistry. Conference on: Towards a Global Carbon Observing System: Progress and Challenges, Geneva, October 1-2, 2013.
44. **T. Tanhua**. Deliberately Released Tracer Experiments and Transient Tracers in the Tropical Atlantic, R.F. Weiss 70th Birthday Symposium, La Jolla, CA, May 29, 2013.
45. N. Gruber, D. Clement, **T. Tanhua**, M. Ishii, R. M. Key, K. Rodgers, R. Wanninkhof, M. Hoppema, C. L. Sabine, F. F. Perez, and S. van Heuven, 2013. Toward a global data-based estimate of the oceanic accumulation of anthropogenic CO₂ since the WOCE era. , ICDC9, Beijing, May 2013
46. Stöven, T., **Tanhua, T.**, Hoppema, M. Transient Tracers in the Southern Ocean and the benefits of a constrained TTD-model. 25th International Symposium on Polar Research, Hamburg, 17th to 22nd March 2013.
47. Samar Khatiwala, **Toste Tanhua**, Chris Sabine, Richard A. Feely. Ocean acidification over the industrial era constrained from tracer observations. Eyoso, 2nd Int. Symposium on Effects of Climate Change on the World's Oceans; May 19, 2012
48. **T. Tanhua**, D. Banyte, D. Wallace, J. Karstensen, G. Krahlmann, A. Schneider, L. Stramma, M. Visbeck. Vertical mixing in the Tropical North Atlantic; Results from a large scale Tracer Release Experiment. AGU Ocean Science meeting, Salt Lake City, February 2012.

49. R. Wanninkhof, G.-H. Park, T. Takakahshi, R. A. Feely, J. L. Bullister, S. C. Doney, **T. Tanhua**. The Framework for ocean observing: Best practices for the Global Ocean Observing System. AGU Ocean Science meeting, Salt Lake City, February 2012.
50. Gruber, N., Clement, D., **Tanhua, T.**, Ishii, M., Key, R. M., Rodgers, K., Wanninkhof, R., Hoppema, M., Perez, F. F., van Heuven, S. Toward a global data-based estimate of the oceanic accumulation of anthropogenic CO₂ since the WOCE era. AGU Ocean Science meeting, Salt Lake City, February 2012.
51. V. Cardin, M. Alvarez-Rodriguez, G. Civitarese, D. Hainbucher, W. Roether, **T. Tanhua**. Similarities and Differences of Thermohaline properties in the Eastern Mediterranean in the last three decades. Variability of the Eastern and Western Mediterranean Circulation and Thermohaline Properties; Similarities and Differences, Rome, November 7-9, 2011.
52. **T. Tanhua**, W. Roether, T. Stöven, A. Schneider. Three decades of transient tracer data in the eastern Mediterranean Sea. Variability of the Eastern and Western Mediterranean Circulation and Thermohaline Properties; Similarities and Differences, Rome, November 7-9, 2011.
53. **T. Tanhua**, A. Körtzinger, D. W.R. Wallace. Observations of the Ocean's role in the carbon cycle. GEO-Carbon Conference: Carbon in a changing World. FAO, Rome, 24.26 October 2011.
54. **T. Tanhua**, S. Khatiwala, C. Sabine. Carbon Changes in the Interior Ocean. The Ocean Carbon Cycle at a time of change: Synthesis and Vulnerabilities, Paris, September 14-16, 2011, Paris.
55. **T. Tanhua**. Interaction between GEOTRACES and GO-SHIP in the Mediterranean Sea: report on a GO-SHIP Med-section in 2011, GEOTRACES Mediterranean Planning Workshop, Nice, 4-6 October, 2010.
56. Leif Anderson, Göran Björk, E. Peter Jones, Sara Jutterström, **Toste Tanhua**, Inger Wahlström. Sources of carbon dioxide to the Arctic and its impact on ocean acidification. International Polar Year, Oslo Conference, June 8-10, 2010.
57. Reiner Steinfeldt, John L. Bullister, and **Toste Tanhua**. Inventory changes in anthropogenic carbon in the Atlantic Ocean (solicited). EGU General Assembly, May 3-7 2010, Wien.
58. Dagmar Kieke, Monika Rhein, Klaus Bulsiewicz, and **Toste Tanhua**. Analysis of Labrador Sea Water in the subpolar North Atlantic by using sulphurhexafluoride as a transient tracer. EGU General Assembly, May 3-7 2010, Wien.
59. Visbeck, M., **Tanhua, T.**, Dengler, M., Fischer, T., Hummels, R., and Wallace D.W.R., 2010. Surprisingly low diapycnical mixing in the tropical ocean's thermocline revealed by a tracer release experiment (GUTRE). Ocean Science Meeting, February 22-26, 2010, Portland, OR, USA.
60. **Tanhua, T.** G. Rehder, P. Holterman, J.J. Wainek, L. Umlauf, O. Schmale, V. Mohrholz. BaTRE: a Trace Release Experiment in the deep Gotland Basin. Swedish Society for Marine Sciences, Marine Science conference 2009, Lulea, 18-19 November 2009. INVITED.
61. Sabine, C. and **Tanhua T.**, Estimation of anthropogenic CO₂ inventories in the Ocean. International Carbon Dioxide Conference 8, Jena, 14-18 September 2009.

62. Marta Álvarez, **T. Tanhua**, H. Brix, C. Lo Monaco and N. Metzl, Decadal biogeochemistry changes in the western Indian Ocean associated with Subantarctic Mode Water. Oral contribution, ISMS09, International Symposium in Marine Sciences, Vigo (Spain), 27-30 April 2009.
63. **Toste Tanhua**. On the impact of accurate nutrient measurements for anthropogenic carbon calculations. 2009 INSS International Workshop, February 11, Paris, France.
64. Lothar Stramma, Martin Visbeck, Peter Brandt, **Toste Tanhua** and Douglas Wallace. Decreasing oxygen in the oxygen minimum zone of the eastern tropical North Atlantic. Goldschmidt Conference 2009, Davos, CH.
65. Jeansson, E., K.A. Olsson, **T. Tanhua**, T. Johannessen. Recent Changes in the Greenland Sea: Tracers and Hydrography, EGU General Assembly, April 14, 2008.
66. Steinfeldt, R., Rhein, M.; Bullister, J.; **Tanhua, T.** Inventory of anthropogenic carbon in the Atlantic. EGU General Assembly, April 16, 2008.
67. Steinfeldt, R., Rhein, M., Bullister, J., **Tanhua, T.** Inventory changes of anthropogenic CO₂ in Labrador Sea Water. Ocean Science Meeting, March 6, 2008, Orlando, FL, USA.
68. Waugh, D.W., **T. Tanhua**, D.W.R. Wallace, K.A. Olsson. Inferring Transport Time Distributions and Anthropogenic carbon from SF₆ and CFC Measurements, Ocean Science Meeting, February 2006, Honolulu, HI, USA.
69. Wallace, D.W.R., **T. Tanhua**, A. Biastoch, A. Körtzinger, H. Lüger, C. Böning. Changes of DIC and CFCs in the North Atlantic between 1981 and 2004. Ocean Science Meeting, February 2006, Honolulu, HI, USA. (*oral presentation by T. Tanhua*).
70. **Tanhua, T.** and Rhein, M. SF₆ and CFCs as transient tracers in the Northwest Atlantic, first results from M59. SFB-460 Seminar Series, at Leibniz-Institut für Meereswissenschaft, University of Kiel, Germany, February 2004 (*oral presentation by T. Tanhua*).
71. **Tanhua, T.** and Rhein, M. Observing the Denmark Strait Overflow With the Transient Tracers SF₆ and CFC-12. 2004 Ocean Sciences Meeting, January 26-30, 2004, Portland, Oregon, USA (*oral presentation by T. Tanhua*).
72. **Tanhua, T.** Analysis of volatile compounds in air, the Medusa. Presentation at Institut für Meereskunde, University of Kiel, Germany, December 2002.
73. **Tanhua, T.** and Olsson, K.A. Variability in the Denmark Strait Overflow studied with 5 years of CFC data. Presentation at Institut für Meereskunde, University of Kiel, Germany (*oral presentation by T. Tanhua*), November 2001.
74. M-J Messias, A. J. Watson, E. Fogelqvist, A. Olsson, K. Oliver, F. Carse, **T. Tanhua**, K.A. Van Scoy, J. Ledwell, T. Johannessen, J. Olafsson, K. Simonsen. The Greenland Sea Tracer Experiment. EGS meeting, Nice, France, April 2000.
75. Olsson, K.A., **Tanhua, T.**, Fogelqvist, E. Ett tracer-experiment i Grönlandshavet; observationer under det första året. Svenska Havsforskarförningens Havsforskarmöte, Marholmen, March 11-13 1997 (*oral presentation by A. Olsson*).

76. **Tanhua, T.**, Olsson, K.A., Fogelqvist, E. Vatten över Skottland-Grönland-ryggen studerat med kemiska spårämnen. Svenska Havsforskarföreningens Havsforskarmöte, Marholmen, March 11-13 1997 (*oral presentation by T. Tanhua*).
77. J. J. Kruepke, K. A. Van Scoy, d. Cooper, A. J. Watson, M. J. Messias, F. Carse, E. Guilyardi, M. Liddicoat, R. Ling, E. Fogelqvist, M. Persson, K. A. Olsson, **T. Tanhua**, T. Johannessen, F. Rey. (1998) Horizontal evolution and distribution of SF₆ tracer: Greenland Sea central gyre July 1996 - May 1997. *AGU/ASLO 1998 Ocean Sciences Meeting, February 9-13, 1998 San Diego, California.*
78. K. A. Van Scoy, D. Cooper, J. Kruepke, A. J. Watson, M. J. Messias, F. Carse, E. Fogelqvist, **T. Tanhua**, A. Olsson, , F. Rey. A Convective Chimney Feature in the central Greenland Sea during May 1997. *AGU/ASLO 1998 Ocean Sciences Meeting, February 9-13, 1998 San Diego, California.*
79. Messias, M-J., Watson, A.J., Guilyardi, E., Carse, F., Fogelqvist, E., Olsson, A., **Tanhua, T.**, Van Scoy, K., Cooper, D., Krupke, J., Johannessen, T., Simonsen, K., Rey, F., Liddicoat, M. and Ling, R. Study of vertical mixing processes in the Greenland Sea using tracer release results. *AGU/ASLO 1998 Ocean Sciences Meeting, February 9-13, 1998 San Diego, California .*
80. Fogelqvist, E., **Tanhua, T.**, Olsson, K.A. Transport av djupvatten från de Nordiska Haven över Grönland-Skottland-ryggen studerat med multivariat analys av hydro-kemiska data (PCA/PLS). Svenska Havsforskarföreningens Havsforskarmöte, Norrköping, March 19-21 1997 (*oral presentation by E. Fogelqvist*).
81. Olsson, K.A., **Tanhua, T.**, Fogelqvist, E.. Djupvattenbildningen i Grönlandshavet kartlagd med en artificiellt tillsatt kemisk markör, första steget i ett storskaligt experiment. Svenska Havsforskarföreningens Havsforskarmöte, Norrköping, March 19-21 1997 (*oral presentation by K.A. Olsson*).
82. **Tanhua, T.**, Olsson, K.A., Fogelqvist, E. Ventilering av den anoxiska fjorden Framvaren i Norge studerad med hjälp av kemiska spårämnen. Svenska Havsforskarföreningens Havsforskarmöte, Norrköping, March 19-21 1997 (*oral presentation by T. Tanhua*).
83. **Tanhua, T.**, Fogelqvist, E. Tracing the greenhouse effect; purge and trap determination of chlorofluorocarbons (CFCs) in seawater. Svenska kemistsamfundet, Analysdagarna, Stockholm, 10-13 juni 1996 (*oral presentation by T. Tanhua*).
84. **Tanhua, T.**, Fogelqvist, E. and K. A. Olsson. Reduction of halocarbons in oxygen depleted waters. American Geophysical Union, Ocean Sciences Meeting, San Diego, February 12-16 1996 (*oral presentation by T. Tanhua*).
85. **Tanhua T.** Halocarbons in seawater; their sources, sinks and distributions. Licentiatföreläsning, Kemihuset, Chalmers Tekniska Högskola, 15 februari, 1995 (*oral presentation by T. Tanhua*).
86. Fogelqvist, E. and **Tanhua, T.** 1994. Alger som lever i Antarktisk havsis utsöndrar joderade organiska ämnen. Svenska Havsforskningsföreningens Havsforskarmöte 11-13 april 1994 Göteborg (*oral presentation by E. Fogelqvist*).

87. Fogelqvist, E. and **Tanhua, T.** Kan man använda freoner som oceanografiska "tracers" i stagnanta vatten? Svenska Havsforskningsföreningens Havsforskarmöte, 11-13 april 1994, Göteborg (*oral presentation by T. Tanhua*).

Posters

1. Douglas Wallace, Rana A Fine, Richard H Gammon, Monika Rhein, William M Smethie Jr, **Toste Tanhua**, Mark J Warner, and Ray F Weiss, 2020. Harnessing of the Transients of Anthropogenic Halogenated Compounds for Understanding Ocean Processes: Critical Steps, Lessons Learned and Ways Forward, 2020. *AGU Ocean Sciences Meeting*, San Diego, February 17-21, 2020.
2. **Toste Tanhua**, Martin Visbeck and Madeleine Freund, Tracing nutrients released from anoxic sediments with a Tracer Release Experiment - POSTRE, 2020. *AGU Ocean Sciences Meeting*, San Diego, February 17-21, 2020.
3. Emil Jeansson, Balamuralli Rajasakaren, **Toste Tanhua**, Are Olsen, and William M Smethie Jr, 2020. Changes in ventilation and anthropogenic carbon in the Nordic Seas and Arctic Ocean. *AGU Ocean Sciences Meeting*, San Diego, February 17-21, 2020.
4. John Christopher L'Esperance, **Toste Tanhua**, and Douglas Wallace, 2020. Towards Autonomous Observing Platforms for Use in Ocean Tracer Release Experiments. *AGU Ocean Sciences Meeting*, San Diego, February 17-21, 2020.
5. Pingyang Li and **Toste Tanhua**, 2020. Changing ventilation of the Mediterranean Sea studies with a suite of novel halogenated transient tracers. *AGU Ocean Sciences Meeting*, San Diego, February 17-21, 2020.
6. M. Freund, M. Visbeck, **T. Tanhua**, 2018. Dispersion of a tracer in the Eastern Tropical South Pacific, *Ocean Science Meeting 2018*, Portland, 11-16 Feb 2018.
7. J. C. L'Esperance, **T. Tanhua**, Boie Bogner, Damian L. Arévalo-Martínez and D. W. R. Wallace, 2017. A Novel, Underway Gas Chromatography System: Realized and Planned Applications, *Gordon Research Conference*, New London, New Hampshire, United States, July 23 - 28, 2017.
8. Telszewski, Maciej; **Tanhua, Toste**; Ishii, Masao; Fischer, Albert; Palacz, Artur, 2017. Fit-for-purpose Global Ocean Observing System – built on Requirements, promoting Alignment, delivering Relevant Information, *ICDC-10*, Interlaken, August 21-25, 2017.
9. Sanleon-Bartolome, Henar; Álvarez, Marta; Velo, Anton; **Tanhua, Toste**; Fajar, Noelia Maria, 2017. The CARIMED (CARbon IN the MEDiterranean Sea) data synthesis initiative: overview and quality control procedures, *ICDC-10*, Interlaken, August 21-25, 2017.
10. Patara, Lavinia; Böning, Claus W.; **Tanhua, Toste**; Oschlies, Andreas, 2017. Decadal fluctuations of the ocean ventilation affect the Southern Ocean carbon sink, *ICDC-10*, Interlaken, August 21-25, 2017.
11. **Toste Tanhua**, Mario Hoppema, E.M. Jones, T. Stöven, J. Hauck, M. González Dávila, M. Santana-Casiano, M. Álvarez, V.H. Strass, 2017. Changes during a 40 years period in storage of anthropogenic carbon and ventilation in the Atlantic sector of the Southern Ocean, *ICDC-10*, Interlaken, August 21-25, 2017.
12. Are Olsen, Steven van Heuven, Robert M. Key, **Toste Tanhua**, Mario Hoppema, Siv K. Lauvset, Anton Velo, Xiaohua Lin, Carsten Schirnack, Alex Kozyr, Sara Jutterström, Reiner

- Steinfeldt, Emil Jeansson, Masao Ishii, Fiz F. Pérez and Toru Suzuki, 2017. Global Trends in Ocean Dissolved Inorganic Carbon, *ICDC-10*, Interlaken, August 21-25, 2017.
13. Raimondi L., **Tanhua T.**, Azetsu-Scott K., Wallace D.W.R, 2017. Variability of Anthropogenic Carbon Dioxide in the Labrador Sea between 1992 and 2016, *ICDC-10*, Interlaken, August 21-25, 2017.
 14. Broullón, Daniel; Pérez, Fiz; Velo, Antón; Olsen, Are; Key, Robert M; van Heuven, Steven; Lauvset, SivK; Lin, Xiaohua; Schirnack, Carsten; Kozyr, Alex; **Tanhua, Toste**; Hoppema, Mario; Jutterström, Sara; Steinfeldt, Reiner; Jeansson, Emil; Ishii, Masao; Suzuki, Toru, 2017. Climatologies of seawater CO₂ chemistry variables: A neural network approach. *ICDC-10*, Interlaken, August 21-25, 2017.
 15. Madeleine Freund, Martin Visbeck, **Toste Tanhua**, 2017. Dispersion of a tracer in the Eastern Tropical South Pacific. *Gordon Research Conference*, New London, 2017.
 16. Jan-Lukas Menzel Barraquet, Bernhard Wenzel, Christian Schlosser, Pablo Lodeiro, Stephan Krisch, **Toste Tanhua**, Martin Frank, Martha Gledhill, Eric Pieter Achterberg, 2017. Dissolved Aluminium distribution along GEOTRACES section GA08 in the South East Atlantic. *Goldschmidt Conference*, Paris, August 13-18, 2017.
 17. Sylvia Walter, Annette Kock, Tobias Steinhoff, Björn Fiedler, Peer Fietzek, Jan Kaiser, Maarten Krol, Elena Popa, Qianjie Chen, **Toste Tanhua**, and Thomas Röckmann, 2017. Isotopic evidence for biogenic molecular hydrogen production in the Atlantic Ocean, *EGU*, Vienna, 24-28 April, 2017.
 18. Emil Jeansson, Are Olsen, **Toste Tanhua**, and Truls Johannessen, 2017. Decadal Changes in Ventilation and Anthropogenic Carbon in the Intermediate Depths of the Arctic Ocean. *EGU*, Vienna, 24-28 April, 2017.
 19. L. Patara, C. Schmidt, **T. Tanhua**, C. Böning, 2017. Decadal changes in Southern Ocean ventilation in an eddying ocean model: preliminary results. *EGU*, Vienna, 24-28 April, 2017
 20. M. Köllner, M. Visbeck, **T. Tanhua**, T. Fischer, 2017. Isopycnal diffusivity in the tropical North Atlantic Oxygen Minimum Zone. *EGU*, Vienna, 24-28 April, 2017.
 21. **T. Tanhua**, S. van Heuven, Olsen, A., R. Key, S. Lauvset, A. Velo, X. Lin, C. Schirnack, A. Kozyr, M. Hoppema, S. Jutterström, R. Steinfeldt, E. Jeansson, M. Ishii, F.F. Pérez, T. Suzuki, 2016. Comparability of Oceanic Nutrient Data: Results from the Secondary QC of GLODAPv2 Nutrient Data. *CLIVAR OSC*, Qingdao, 19-23 September, 2016.
 22. Jacquet, S., L. Jullion, C. Monnin, V. Riou, C. Manté, **T. Tanhua**, 2016. A high resolution and quasi zonal transect of dissolved Ba in the Mediterranean Sea, *Ocean Science Meeting*, New Orleans, USA, Feb 2016.
 23. Olsen, A., R. Key, S. van Heuven, S. Lauvset, A. Velo, X. Lin, C. Schirnack, A. Kozyr, **T. Tanhua**, M. Hoppema, S. Jutterström, R. Steinfeldt, E. Jeansson, M. Ishii, F.F. Pérez, T. Suzuki, 2016. GLOBAL OCEAN DATA ANALYSIS VERSION 2 (GLODAPv2), *Ocean Science Meeting*, New Orleans, USA, Feb 2016.
 24. Steinfeldt, R., D. Kieke, **T. Tanhua**, E. Jeansson, M. Rhein, 2016. Storage of Anthropogenic Carbon in the Atlantic over the last 30 Years, *Ocean Science Meeting*, New Orleans, USA, Feb 2016.
 25. Jaquet, S.H.M., Jullion, L., Monnin, C., Manté, C., **Tanhua, T.** A high resolution and quasi-zonal transect of dissolved Ba in the Mediterranean Sea. *Ocean Science Meeting*, New Orleans, Feb. 2016.

26. **Tanhua, T.**, Liu, M., 2015. Upwelling velocity and ventilation in the Mauritanian Upwelling System estimated by CFC-12 and SF₆ observations. *SOLAS Open Science Conference*, Kiel 7-11 September, 2015.
27. S. Jacquet, S. Chifflet, C. Manté, V. Riou, L. Jullion¹, C. Monnin, **T. Tanhua**, 2015. Dissolved barium in the Mediterranean Sea: impact of the circulation and biogeochemical processes. *Aix-Marseille and the Mediterranean: scientific challenges and collaborations*, Marseille, Feb 2015.
28. **Tanhua, T.**, Stöven, T., Schneider, A., Roether, W., 2014. Recent changes in the ventilation of the Mediterranean Sea constrained by CFCs, SF₆, tritium and He³ data. *Ocean Science Meeting*, Honolulu, Feb 20-14, 2014.
29. A.M. Oviedo, P. Ziveri, **T. Tanhua**, 2013. Is coccolithophore distribution in the Mediterranean Sea related to seawater carbonate chemistry?- Symposium on Integrating New Advances in Mediterranean Oceanography and Marine Biology, Barcelona, 26-29 November, 2013.
30. **T. Tanhua**, M. Hoppema, T. Stöven. Carbon and transient tracer dynamics: Preliminary results after the first field experiments, Koordinations-workshop SPP 1158, Bochum, 25-27 Sept., 2013.
31. S. Lauvset, R. M. Key, A. Olsen, **T. Tanhua**, M. Hoppema, S. Jutterström, R. Steinfeldt, E. Jeansson, A. Kozyr, B. Pfeil, T. Suzuki, M. Ishii, 2013. GLODAPv2 – a global and quality controlled ocean biogeochemical data product, ICDC9, Beijing, May 2013.
32. D. Banyte, M. Visbeck, **T. Tanhua**, T. Fischer, G. Krahnmann, and J. Karstensen, 2013. Lateral Diffusivity from Tracer Release Experiments in the Tropical North Atlantic Thermocline, EGU General Assembly 2013, Vienna.
33. Fischer, T., Banyte, D., Brandt, P., Dengler, M., Krahnmann, G., **Tanhua, T.** and Visbeck, M. 2013. Diapycnal oxygen supply to the tropical North Atlantic oxygen minimum zone, EGU General Assembly 2013, Vienna.
34. A. Olsen, R. M. Key, **T. Tanhua**, M. Hoppema, S. Lauvset, S. Jutterström, A. Kozyr, R. Steinfeldt, E. Jeansson, B. Pfeil, M. Ishi and T. Suzuki, 2012. Moving from GLODAP, CARINA and PACIFICA to the Global Ocean Data Analysis v2, GLODAPv2. Bjerknes 10-year anniversary conference, Bergen, September 2012.
35. L. Stramma, R. Czeschel, M. Visbeck and **T. Tanhua**, 2012. Stagnant flow and eddies in the oxygen minimum zone south of the Cape Verde Islands. TACE workshop, September 2012, Kiel.
36. Banyte, D., **Tanhua, T.**, Visbeck, M., Wallace, .W.R., Karstensen, J., Krahnmann, G., Schneider, A., Stramma, Dengler, M. Vertical Mixing estimated from a Tracer Release Experiment. EGU General Assembly, April 23-27, 2012.
37. Umlauf, L., Holtermann, P., **Tanhua, T.**, Schmale, O., Rehder, G., Waniek, J. The Baltic Sea Tracer Release Experiment. AGU Ocean Science meeting, Salt Lake City, February 2012.
38. Sabine, C.L., Khatiwala, S., **Tanhua, T.**, Lee, K., Feely, R. Increasing Anthropogenic CO₂ inventories in the Ocean. WRCP Open Science Conference, Denver, CO, October 24-29, 2011

39. Banyte, D., **Tanua, T.**, Visbeck, M., Wallace D.W.R., Karstensen, J., Krahmann, G., Schneider, A., Stramma, L. Diapycnal diffusivity at the upper boundary of the North Tropical Atlantic Oxygen Minimum Zone. WRCO Open Science Conference, Denver, CO, October 24-29, 2011
40. Schneider, A., **Tanhua, T.**, Wallace, D.W.R., Körtzinger, A. Water masses and anthropogenic carbon in the tropical Atlantic. GEO-Carbon Conference: Carbon in a changing World. FAO, Rome, 24-26 October 2011.
41. Sabine, C.L., Khatiwala, S., **Tanhua, T.**, Lee K., Feely R. Increasing Anthropogenic CO₂ Inventories in the Ocean. World Climate Research Program Open Science Conference, Denver, CO, October 24-28, 2011.
42. Grombik-Suwala, I., **T. Tanhua**, H. Mehrtens, M. Alvarez. Collected Data? Did you QC the data and submit to a data centre? 2nd Young Scientist Excellence Cluster Conference on Marine and Climate Research: Perspectives from Natural and Social Sciences, Bremen, 4-5 October, 2011.
43. Holtermann, P., L. Umlauf, and **T. Tanhua**. Energetics of mixing in a stratified basin without tides. EGU General Assembly, May 3-7 2010, Wien.
44. **Tanhua, T.** G. Rehder, P. Holtermann, J.J. Wainek, L. Umlauf, O. Schmale, V. Mohrholz. Mixing rates in the deep Baltic Sea revealed by a tracer release experiment. Ocean Science Meeting, February 22-26, 2010, Portland, OR, USA.
45. Freing, A., D.W.R. Wallace, **T. Tanhua**, S. Walter, H.W. Bange, 2009. North Atlantic N₂O Emissions, SOLAS international conference, Barcelona, Nov 16-20 2009.
46. **Tanhua, T.** and Keeling R.F. Decadal changes in column inventories of carbon and oxygen in the Atlantic Ocean. International Carbon Dioxide Conference 8, Jena, 14-18 September 2009.
47. Schneider, A., **Tanhua, T.**, Klein, B., Wallace, D.W.R. Anthropogenic CO₂ in the Mediterranean Sea. EGU General Assembly, April 14, 2008.
48. Alvarez, M., C. Lo Monaco, **T. Tanhua**, et al. A higher storage of anthropogenic carbon in the Indian Ocean?, EGU General Assembly, April 15, 2008.
49. **Tanhua T.**, E.P. Jones, E. Jeansson, S. Jutterstöm, W.M. Smethie, D.W.R. Wallace, L.G. Anderson. Anthropogenic CO₂ and acidification in the Arctic Ocean, EGU General Assembly, April 15, 2008.
50. **Tanhua T.**, E.P. Jones, E. Jeansson, S. Jutterstöm, W.M. Smethie, D.W.R. Wallace, L.G. Anderson. Anthropogenic CO₂ and acidification in the Arctic Ocean, Ocean Science Meeting, Orlando, March 6, 2008.
51. **Tanhua, T.**, D.W. Waugh, D.W.R. Wallace. On the use of SF₆ for the estimation of anthropogenic CO₂ in the upper ocean. EGU General assembly, Wien, April 2007.
52. Björk, G., K. Aagaard, R. Amon, L. Anderson, S. Becker, L. Girard, E. Jeansson, M.C. Johnson, P. Jones, S. Jutterström, A.E.B. Lindberg, L. Mintrop, R. Newton, R. Palomares, D. Quadfasel, E. Quiroz, L. Reinville, A. Rinehart, B. Rudels, J.H. Swift, **T. Tanhua**, P.

- Winsor, F. Zemlyak. AOS-2005: A CTD/hydrographic/tracer section across the Arctic Ocean. Ocean Science Meeting, February 2006, Honolulu, HI, USA.
53. Olsson, K.A., **T. Tanhua**, T. Eldevik, M.-J. Messias, E. Jeansson, T. Johannessen, A.J. Watson, K.I.C. Oliver. Export of ventilated water from the Nordic Seas to the North Atlantic and Arctic Oceans investigated by released SF₆. Ocean Science Meeting, February 2006, Honolulu, HI, USA.
54. Eldevik, T., Olsson, A., Straneo, F., Sandö, A.B., **Tanhua, T.** and Messias, M.J., 2006: The pathways and overflows of the Nordic Seas as traced out by SF₆. 13th Ocean Science Meeting, Honolulu, USA, 20.-24.02.2006.
55. **Tanhua, T.**, K.A. Olsson, M.-J. Messias, E. Jeansson. Distribution of Deliberately Released SF₆ in the North Atlantic Deep Water. Ocean Science Meeting, February 2006, Honolulu, HI, USA.
56. **Tanhua, T.** Wallace, D.W.R. and Bullister, J.B. Comparison of tracer distributions in the North Atlantic between 1981 and 2004. General Assembly of the European Geosciences Union, Vienna, April 2005.
57. **Tanhua, T.**, Olsson, K.A. and Jeansson, E. Formation of the Denmark Strait Overflow Water and its hydro-chemical properties. The Bjerknes centenary, Climate Change in high latitudes, Bergen, Norway, 1-3 September 2004.
58. **Tanhua T.**, Miller, B.R., Salameh, P., Weiss, R.F. Analysis of volatile halogenated compounds in air with a triple micro-trap technique. The analytical days, Swedish Chemical Society, Göteborg, 10-13 June 2003.
59. Olsson, K.A., Jeansson, E., **Tanhua, T.**, Gascard, J.C. The East Greenland Current and the Denmark Strait Overflow. EGU - 1st General Assembly, Nice, France, April 2004.
60. **Tanhua, T.**; Olsson, K.A. Removal and bioaccumulation of anthropogenic, halogenated transient tracers in an anoxic fjord. EGS, AGU, EUG joint assembly, Nice, April 2003.
61. Olsson, K.A.; **Tanhua, T.** Formation of the Denmark Strait Overflow in the Irminger Basin. EGS, AGU, EUG joint assembly, Nice, April 2003.
62. Olsson, K.A., Jeansson, E., **Tanhua, T.** Mixing in the East Greenland Current studied by the released tracer sulphur hexafluorid. *Progress in Arctic Ocean research over the past decades, The Royal Swedish Academy of Sciences, Stockholm, 5-7 November 2001.*
63. Jeansson, E., Olsson, K.A., **Tanhua, T.** Mixing in the East Greenland Current studied by the released tracer sulphur hexafluoride. *SHF Havsforskardagarna 2001, Göteborg, 2-4 okt 2001*
64. Fogelqvist, E., Olsson, A.K., **Tanhua, T.**, Watson, A.J., Messias, M.-J., Carse, F., Wallace, D.W.R., Van Scoy, K., Kruepke, J., Cooper, D., Liddicoat, M. and Ling, R. A "chimney" of well mixed water down to 2000 m as revealed from SF₆ and CFC measurements and indications of transport of water to the bottom at 3700 m. ESOP-2 Mid Term Workshop, 29 Sep. to 1 Oct. 1997, Villefranche sur Mere.
65. Messias, M.-J., Watson, A.J., Carse, F., Fogelqvist, E., Olsson, A., **Tanhua, T.**, Van Scoy, K., Cooper, D., Krupke, J., Johannessen, T., Olafsson, J., Guilyardi, E., Liddicoat, M. and Ling, R. Study of late summer diapycnal mixing and deep water formation in the Greenland Sea

using tracer release results. ESOP-2 Mid Term Workshop, 29 Sep. to 1 Oct. 1997, Villefranche sur Mere.

66. Fogelqvist, E., **Tanhua, T.** A field study of the release of halogenated C₁ - C₄ organics from ice algae in the Antarctica. International Conference on Naturally-Produced Organohalogenes, 14-17 September 1993, Delft, The Netherlands.
67. Fogelqvist, E., **Tanhua, T.** and Bastürk, Ö. Tracing of water masses in the Bosphorus Strait using halocarbon measurements. European Geophysical Society, XVIII General Assembly, 3-7 May 1993, Wiesbaden, Germany.
68. Fogelqvist, E., Krysell, M., **Tanhua, T.** Freoner som mått på vattenombländning, Sommaruniversitetet, Göteborgs Marina Forskningscentrum, Juli 1992.