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Photochemistry and organic complexation of iron

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PUBLICATIONS (REFEREED JOURNALS)

Gerringa, L.J.A., **Rijkenberg, M.J.A.**, Wolterbeek, H.Th., Verburg, T.G., Boye, M., de Baar, H.J.W. Kinetic study reveals new Fe-binding ligand which affects the solubility of Fe in the Scheldt estuary *Submitted to Marine Chemistry*

Rijkenberg, M.J.A., Gerringa, L.J.A., Velzeboer, I., Timmermans, K.R., Buma, A.G.J., de Baar, H.J.W. Iron-binding ligands in Dutch estuaries are not affected by UV induced photochemical degradation *Submitted to Marine Chemistry*

Rijkenberg, M.J.A., Gerringa, L.J.A., Carolus, V.E., Velzeboer, I., Timmermans, K.R., de Baar, H.J.W. Individual ligands have different effects on the photoreduction of iron in natural seawater of the Southern Ocean *Submitted to Geochimica et Cosmochimica Acta*

de Baar, H.J.W., Boyd, P.W., Coale, K.H., Landry, M.R., Tsuda, A., Assmy, P., Bakker, D.C.E., Bozec, Y., Barber, R.T., Brzezinski, M.A., Buesseler, K.O., Boye, M., Croot, P.L., Gervais, F., Gorbunov, M.Y., Harrison, P.J., Hiscock, W.T., Laan, P., Lancelot, C., Levasseur, M., Marchetti, A., Millero, F.J., Nishioka, J., Nojiri, Y., van Oijen, T., Riebesell, U., **Rijkenberg, M.J.A.**, Saito, H., Takeda, S., Timmermans, K.R. and Veldhuis, M.J.W., 2005. Synthesis of 8 iron fertilization experiments: from the Iron Age in the age of enlightenment. *Accepted by Journal of Geophysical Research*

Rijkenberg, M.J.A., Fischer, A.C., Kroon, J.J., Gerringa, L.J.A., Timmermans, K.J., de Baar, H.J.W. (2005) The influence of UV irradiation on the photoreduction of iron in the Southern Ocean *Marine Chemistry* 93, 119-129

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Gerringa, L.J.A., **Rijkenberg, M.J.A.**, Timmermans K.R., Buma, A.G.J. (2004) The influence of UV on photochemical production of hydrogen peroxide formation in equatorial Atlantic Ocean water. *J. Sea Research*. 51, 3-10

Rijkenberg, M.J.A., Kort, R., Hellingwerf, K.J. (2001) *Alkalispirillum mobile* gen. Nov., spec. Nov., an alkaliphilic non-phototrophic member of the *Ectothiorhodospiraceae* *Arch. Microbiol.* 175:369-375

OTHER REFEREED PUBLICATIONS

Van Oijen, T., **Rijkenberg, M.J.A.** (2004) Control of phytoplankton growth by iron in the Southern Polar Frontal Zone: results of deck incubation during an *in situ* iron enrichment experiment (EisenEx/CARUSO), Ph.D. thesis, Groningen.

PUBLICATIONS IN PREPARATION

Rijkenberg, M.J.A., Gerringa, L.J.A., Timmermans, K.R., Fischer, A.C., Wolterbeek, H.Th., Buma, A.G.J., de Baar, H.J.W. Diatoms enhance the reactive iron pool: increasing Fe-photoreduction and light-independent modification of strong iron-binding ligands

PRESENTATIONS

Rijkenberg, M.J.A., Gerringa, L.J.A., Carolus, V.E., Velzeboer, I., de Baar, H.J.W. Photo(induced) redox cycling of Fe in the Southern Ocean: the organic Fe-binding ligands, BIPED, University of Groningen, 16 December 2004, Haren, *oral*

Rijkenberg, M.J.A., Gerringa, L.J.A., Neale, P.J., Timmermans, K.R., Buma, A.G.J., de Baar, H.J.W. Impact of enhanced UVB on the Fe photochemistry in the Southern Ocean

- Polair Symposium, Dutch Polar Program (NWO) and SCAR (KNAW), 10 & 11 May 2004, Teylers Museum, Haarlem (the Netherlands), *oral*

- Symposium on Positive feedback of enhanced UV-B via iron chemistry of seawater on phytoplankton growth and CO₂ fixation in the Southern Ocean, 8th April 2004, Royal NIOZ (the Netherlands), *oral*

Rijkenberg, M.J.A., Gerringa, L.J.A., Timmermans, K.J., Fischer, A.C., Carolus, V., Maas, L.R.M., Neale, P.J., de Baar H.J.W. The photoreduction of iron in seawater

- EGS - AGU - EUG Joint Assembly, April 2003, Nice (France), *poster*

- Rijkenberg, M.J.A.**, Fischer, A.C., Gerringa, L.J.A., Kroon, J.J., Timmermans, K.R., Buma, A.G.J., de Baar H.J.W. The influence of enhanced UV radiation on the diel cycle of iron photoreduction in the Southern Ocean
- 6e Dutch Earth-Scientific Symposium 18 & 19 April 2002 Koningshof, Veldhoven (the Netherlands), *poster*
 - Verwey meeting 28 & 29 January 2002 Royal NIOZ (the Netherlands), *poster*
 - International Global Change Open Science Conference, 10-13 July 2001, Amsterdam (the Netherlands), *poster*
 - Antarctica Symposium NWO/NAAP, 12th April 2001, Trippenhuis, Amsterdam (the Netherlands), *poster*

OTHER ACTIVITIES

- | | |
|----------------------|--|
| 1993- <i>present</i> | Member of the international committee of the youth association “Jong Nederland” (similar to Scouting) |
| 1992-2001 | Group leader for children between 7 and 12 years old. Vice chairman (1994-1995), chairman (1995-1997) of a local association of “Jong Nederland” |
| 1997-1998 | student member of the board of the education committee of bio-molecular chemistry |
| 1996-1997 | student member of the education committee of bio-molecular chemistry |

SKILLS

- | | |
|------------------------|--|
| <i>Languages</i> | Dutch: native language
English: excellent |
| <i>Drivers license</i> | Yes |