



Symposium

Een halve eeuw Stichting Duik Research
Half a century Stichting Duikresearch

Zaterdag, 24 september 2022
Saturday, 24 September 2022

Locatie; nader te bepalen (in of bij Amsterdam)
Venue; to be decided (in Great Amsterdam)

Speakers

Didier de Bakker, PhD, Tropical marine ecologist, Wageningen Marine Research (WUR) and formerly The Royal Netherlands Institute for Sea Research (NIOZ), Texel, The Netherlands

Mattijn Buwalda, MD, anaesthesiologist-intensivist and dive medicine physician, Odijk, The Netherlands.

Martijn R. Manders, PhD, MA, Assoc. Prof. in archeology, University Leiden, The Netherlands.

Jean Claude Le Péchon, MSc, MEng, consultant in hyperbaric health and safety at work, Hyperbarie, Paris

Rienk Rienks, PhD, MD, cardiologist, diving physician, Central Military Hospital Utrecht, Military Hospital Queen Astrid, Brussels, CardioExpert policlinic Bunnik, The Netherlands.

Nico A.M. Schellart, PhD, MSc, emeritus Assoc. Prof. in medical physicist, Academisch Medisch Centrum, University of Amsterdam, The Netherlands.

Besides participants of the Netherlands, we also would like to welcome participants from abroad.

Accreditation

The program comprises 5h00 oral contact hours. NVD accreditation points will be requested. Physicians from outside of the Netherlands will obtain a certificate (only they).

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Symposium

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Programma

9:30 Ontvangst (*Welcome*)

10:00 10.05 Opening

10.05 - 10.50 **Jean-Claude Le Péchon**. Diving in very unusual environments.

10: 50 - 11.35 **Rienk Rienks** Duikcardiologie in heden en verleden (*Diving cardiology in past and present*)

11. 35 - 12.20 **Martijn Manders** Duiken ten dienste van de mariene onderwater archeologie (*Diving at the service of marine underwater archaeology*).

12.20 – 12.30 Discussion of the three lectures (10 min)

Lunch

13.30-14.15 **Didier de Bakker** De uitdagingen van het duiken bij onderzoek van het koraalbiotoop (*The challenges of diving in coral reef research*).

14.15-15.00 **Mattijn Buwalda**. Anatomische en fysiologische adaptaties van duikende zoogdieren (*Anatomical and physiological adaptations of diving mammals*)

15.00 -15.45 **Nico Schellart** Een halve eeuw onderzoek van de Stichting Duik Research (*Half a century Research by Stichting Duik Research*)

15.45 – 15. 55 Discussion of the three lectures (10 min)

15.55 Feestelijke toespraakjes

Receptie (*Reception*)

17.15 Einde (*The end*)

Accreditatie (5 c.p.): NVD

Language: most lectures predominantly in Dutch, **all slides (self-explaining) in English**

The lecturers



Didier de Bakker, PhD, studied biology at the University of Amsterdam and completed Master Limnology and Oceanography in 2014. Since 2012, he has been studying various aspects of coral reefs, and principally its recent large-scale degradation in relation to the increasing anthropogenic impact. In April 2019, he successfully defended his doctoral thesis titled: “40 years of change on the coral reefs of Curaçao and Bonaire”, at the University of Wageningen and in Collaboration with the NIOZ. Besides his work-related diving activities he has been an active recreational since 2006 and PADI open water instructor since 2011.



Mattijn Buwalda, MD, is an anaesthesiologist-intensivist and dive medicine physician, and practises in The Netherlands, Belgium and UK. He is interested in extreme physiology and medicine and has given many lectures in the Netherlands and abroad (see website www.mattijnb.nl). Mattijn wrote dive medicine related chapters about drowning in textbooks, is instructor in wilderness and trauma life support courses which he organized. As a former normoxic trimix CCR diver he lived up to the motto: ‘dive docs should dive themselves’. He is a board member of the Dutch Ned. Ver. v Duikeneeskunde.



Martijn Manders, PhD, MA, Assoc. Prof. is an underwater archaeologist, head of the international maritime program of the Rijksdienst voor het Cultureel Erfgoed (RCE; Cultural Heritage Agency of the Netherlands) and is associate professor at the University Leiden. During his career of more than 3 decades he did research on Dutch ship wrecks all over the world, for instance the Batavia (1629) in Australia, the Rooswijk (1740) in England and the Hoorn (1615) in Argentina. In the Netherlands and abroad, he gave many international courses on marine archeology for young researchers



Jean-Claude Le Péchon, MSc, MEng, graduated as biochemical engineer and as marine biologist from Nice University. He worked at the Musée Océanographique of Monaco and with J.Y. Cousteau and dove to 400 m in a simulation. In 1986 he founded JCLP Hyperbarie, an agency specialized in life support and safety under pressure (commercial diving, space and hyperbaric medicine, and 80 tunnelling projects with saturation technology). He lectures physiology and technology of diving- and hyperbaric medicine at universities and international congresses all over the world. He is Instructor (Air, Nitrox and Trimix) and published in scientific journals and textbooks.



Rienk Rienks, MD, PhD, graduated in medicine in 1981 and was confirmed as cardiologist in 1986 after training in the Utrecht Medical Centre. In 1991 he obtained his doctorate on a dissertation on the applications of lasers in cardiology. He is retired, and works momentarily at the Centraal Military Hospital in Utrecht, the Military Hospital Queen Astrid in Brussels and the CardioExpert polyclinic in Bunnik. His main interest lies in diving, aeromedical and sports cardiology. He is an authority and consultancy on hypo- and hyperbaric cardiology, with many memberships in boards and committees on sports medicine (VSG) and Dutch Society for Cardiology (NVvC) and member of UHMS. He dives almost 40 years, and has Nitrox licence.



Nico Schellart, PhD, MSc, Assoc. Prof (ret), graduated as biologist, specialized in neurophysics (PhD 1973, Univ. of Amsterdam). He studied information processing of the visual and auditory system in the brain by fundamental and clinical research, resulting in some 150 papers etc. After his retirement of the Amsterdam University Medical Centres, he performed lab and field studies in diving and HBO medicine, published some 20 papers and many conference proceedings. He teaches diving physiology, is EUBS and honorary NVD member, tested dozens of dive computers (www.duikresearch.org), founded the Capita Selecta Diving Medicine, and is a recreational scuba (Nitrox) and formerly a free diver.

The lectures

Jean-Claude Le Péchon Diving in very unusual environments

Among dives carried out in special conditions, three situations will be addressed:

- High altitude (4500 m) diving with semi closed rebreather. Type of equipment selected, choice of the gas, altitude adaptation, water temperature, decompression issues, etc. ...
- Nuclear diving: Risk assessment, choice of equipment, water temperature, undressing procedures...

Conclusion, when facing a requirement for “extra-ordinary” underwater work, a sound risk evaluation is the key to find out how to perform safely.

Rienk Rienks.... Diving cardiology in past and present

Already in 1670 Sir Robert Boyle described decompression sickness when he observed a bubble in the eye of a viper that was exposed to a vacuum. Widespread recognition of the importance of decompression illness occurred when Dr Andrew Smith described the “caisson disease” in 110 cases of workers that worked under “compressed air” circumstances on the Brooklyn Bridge in 1873. After WW II large scale recreational diving started, after the introduction and commercialization of the automatic demand regulator by Cousteau and Gagnan. This enabled the training of millions of SCUBA divers. With these high numbers and an aging diving population, the influence of SCUBA diving on the circulation and cardiovascular health became an issue. Especially in the second half of the 20th century the cardiovascular effects of SCUBA diving have increasingly been the focus of research. Subject of investigation were for instance the effects of fluid shift on the heart and circulation, the effects of cold temperature and the diving reflex, the effects of the inhalation of hyperbaric air on the heart, and the role of the heart in decompression sickness (Patent Foramen Ovale, PFO). Recently, more awareness of the importance of cardiovascular risk factors in diving fatalities has emerged. What are the tools of the diving cardiologist to manage and treat these disorders?

Martijn Manders Diving at the service of marine underwater archaeology

There are strict regulations to perform underwater archaeology by diving at the bottom of the sea. One of the things one needs anyhow is a professional diving licence. Dive safety is a primary prerequisite and this may conflict with the aim of the archaeological work. In the presentation, the research of the Rooswijk, a VOC ship wreck, will illustrate how such work is performed, which dangers are met and which considerations affect the process of the investigation.

Didier de Bakker The challenges of diving in coral reef research

Coral reefs are among the richest ecosystems on earth and have, as such, sparked off particular interest within the recreational diving community. Few divers, however, realize the delicate balance in which these ecosystems exist, or will be aware of the processes underlying the dramatic ecological changes that are currently occurring on reefs worldwide. Besides the struggle to maintain and possibly restore what is left of coral reefs, low-quality diving and research facilities, stubborn politicians, and risky diving conditions are some of the challenges that marine biologists face in their daily routine. Special attention will be paid to the underwater research methods and equipment in relationship to the constraints of safe diving

Mattijn Buwalda Anatomical and physiological adaptations of diving mammals

Why does the sperm whale (*Physeter macrocephalus*) not suffer from barotrauma, DCS and most importantly hypoxia? He can dive for more than two hours and reach depths up to 4 km. And all this with one set of lungs. This lecture deals with the physiological and anatomical adaptations that make this extreme breath hold dives possible.

Nico Schellart Half a century *Research* by Stichting Duik *Research*

In the early 1970s the SDR developed and constructed a monoplace chamber, which was extensively used for simulated dives and for visual research (N₂ narcosis at 7.5 ATA). In the 80-ties, visual research was also performed in open water. Later (1990s), the SDR focussed on the examination of the performance of dive computers, with surprising results. In addition, SDR did scientific studies to unmask touch myths circulating decennia in diving medicine. In addition, open sea and dive-simulation studies were performed with Doppler bubble detection and measurements of lung function and air consumption. Finally, SDR organized for nearly 10 years the international AMC Capita Selecta Diving Medicine.

Inschrijfgeld (*Fees*)

For those who are NOT personally invited holds the following. Admission is on receipt of date of bank transfer.

BIG geregistreerde Nederlandse arts:	€ 75,-
All others:	€ 45,-

The fee includes the 5 credit point (certificate provided only for physicians without Dutch BIG registration), lunch, drinks and a reception. Receipts are NOT provided: use your registration confirmation or bank transcription. Remind that due to COVID the number of participants is quite restricted.

Registration starts 1 August 2022 by transferring the fee on the bank account of SDR:

NL51 INGB 0000 0337 31 (BIC/Swift INGBNL 2A)

Write on the transfer order under 'description' ***your full name (with initials) and E-mail address, and for Dutch Physicians your BIG number.***

ACCREDITATIE

Geaccrediteerd door de Nederlandse Vereniging voor Duikgeneeskunde (certificaat wordt alleen verstrekt voor buitenlandse deelnemers).

CARE FOR CLIMATE AND BIODIVERSITY; TRANSPORT

The SDR supports with full conviction via the EU parliament the GREEN DEAL.
The AMC has a perfect Public Traffic connection, by bus, metro and train (<https://www.ns.nl/reisinformatie>, also in English). In case it is NOT in the AMC, the location is easily accessible by public traffic (train and next bus) or by car.

Please, travel "green", for our Planet, for our grandchildren.

COVID REGULATIONS

In conformance with the regulations of the location of the symposium.

Hotels

Suggestions for nearby hotels are:

Hotel Abcoude

Kerkplein 7, 1391 GJ Abcoude
+31 294 281 271, info@hotelabcoude.nl
Rooms from ca. 90 €/day
Bus connection with AMC: no. 120 and no. 126, 2 times per hour (ca. 15 min).

Hotel Fletcher

Schepenberweg 50, 1105 AT Amsterdam
+31 (0)20- 3113670 , <http://www.fletcherhotelamsterdam.nl/locatie>
Rooms from ca. 150 €/day
Walking distance (ca. 20 min in total)

Further:

Hotel De Witte Dame, Rooms from ca. 120 €/day. <https://www.hoteldwd.nl/>
Hotel de Goudvink, Rooms from ca. 140 €/day. www.hoteldegoudvink.nl/