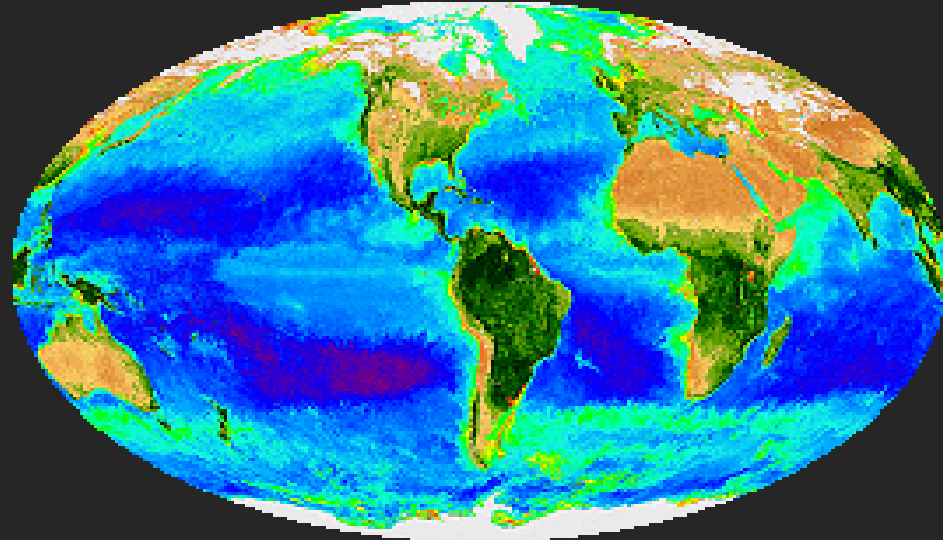


## SCOR working group # 156

“Establishing active fluorescence as a primary productivity metric for the world’s coasts & oceans”



2023 SCOR Annual Meeting, October 2023

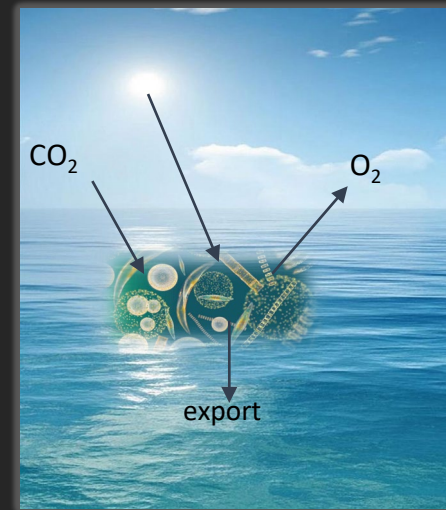


# Background

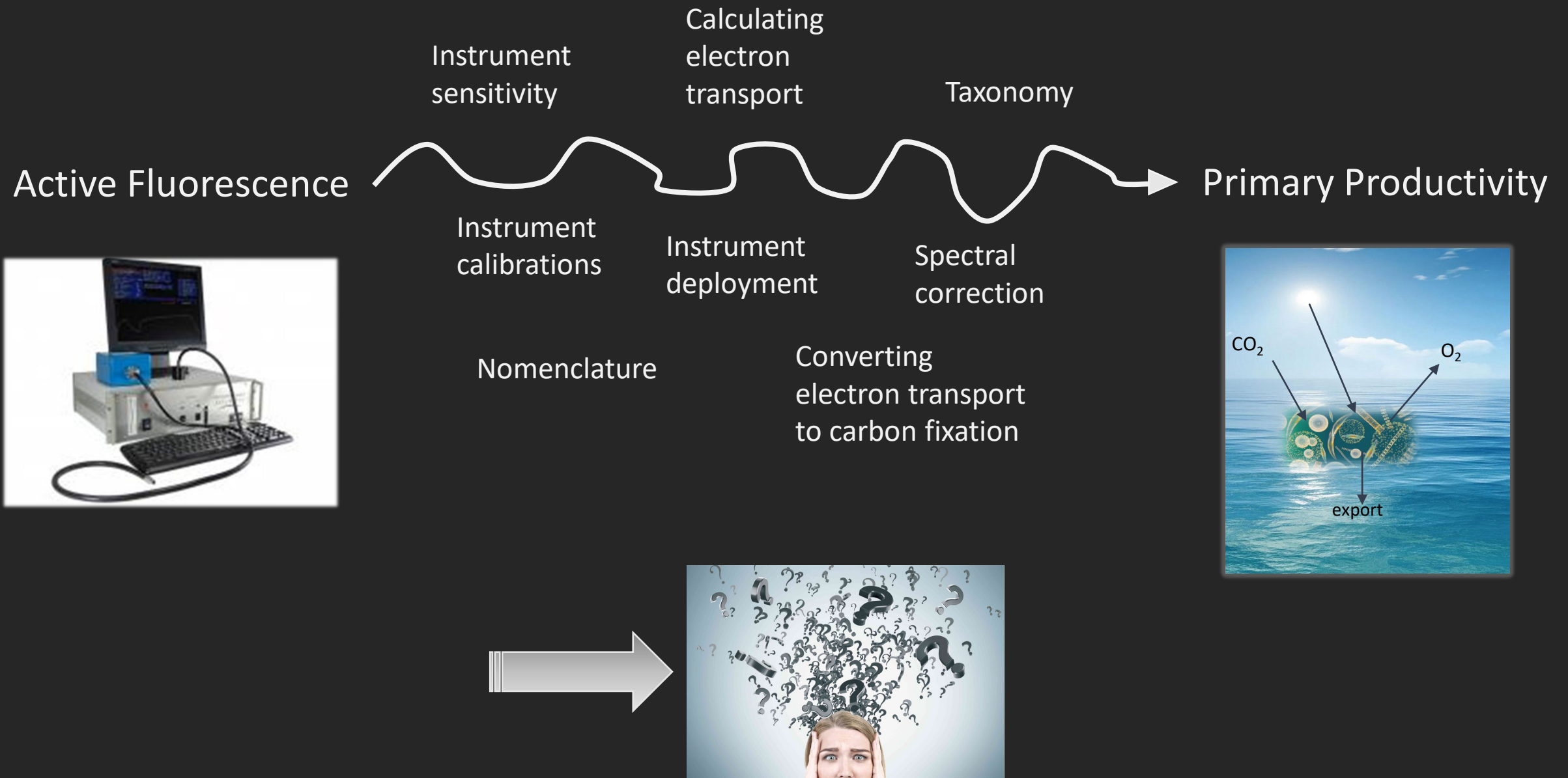
Active Fluorometer



Primary Productivity



# Background



# SCOR working group #156

Philippe Tortell

David Suggett

Tetsuichi Fujiki

Max Gorbunov

Zbigniew Kolber

Jacco Kromkamp

Mark Moore

Kevin Oxborough

Nina Schuback

Sandy Thomalla



Ilana Berman-Frank

Doug Campbell

Susanne Craig

Aurea Ciotti

Kim Halsey

Anna Hickman

David Hughes

Yanick Huot

Ondrej Prasil

Chris Proctor

Charlie Robinson

Tommy Ryan-Keogh

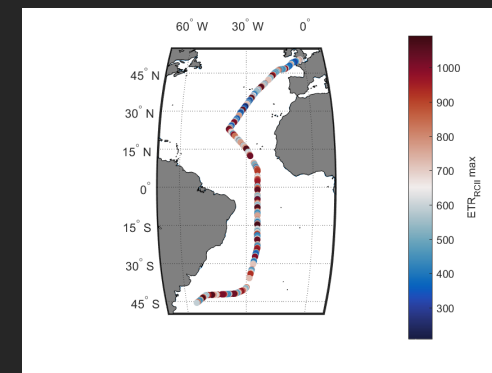
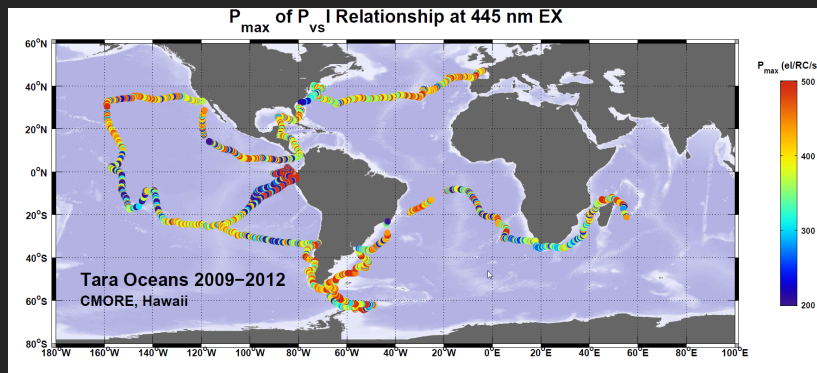
Greg Silsbe

Stefan Simis

Deepa Varkey

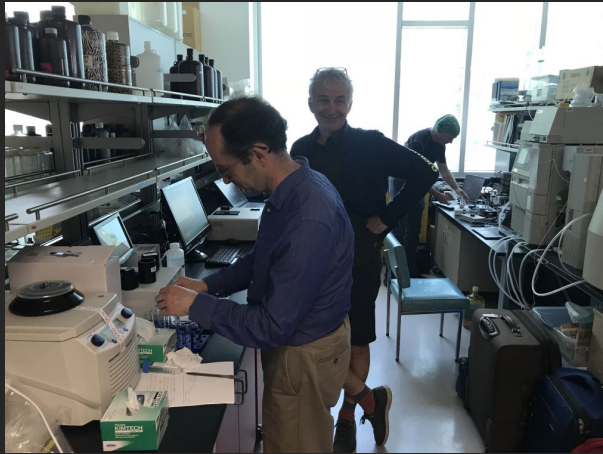
# Objectives

- Ensure inter-comparability of instruments
- Provide consensus best-practice recommendations to user
- Develop and provide open source, platform agnostic software for data analysis
- Develop global database structure
- Build framework of how to use large, globally consistent datasets of active fluorescence data for validation and refinement of ecosystem models and remote sensing algorithms



# Meetings

June 2019, Vancouver



February 2020, San Diego



October 2020, Zoom

December 2020, Zoom

April 2021, Zoom

December 2021, Zoom

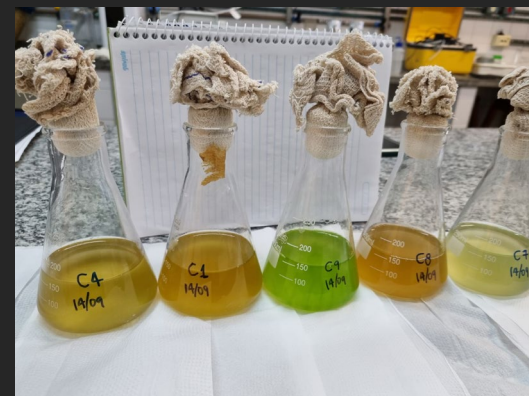
March 2022, Zoom



# SCOR visiting scholar exchange

Visit of Ilana Berman-Frank and Nina Schuback to the lab of Aurea Ciotti at CEBIMAR, University of Sao Paulo, Brazil in Sept/Oct 2023.

Comparison of instrument types and sampling protocols

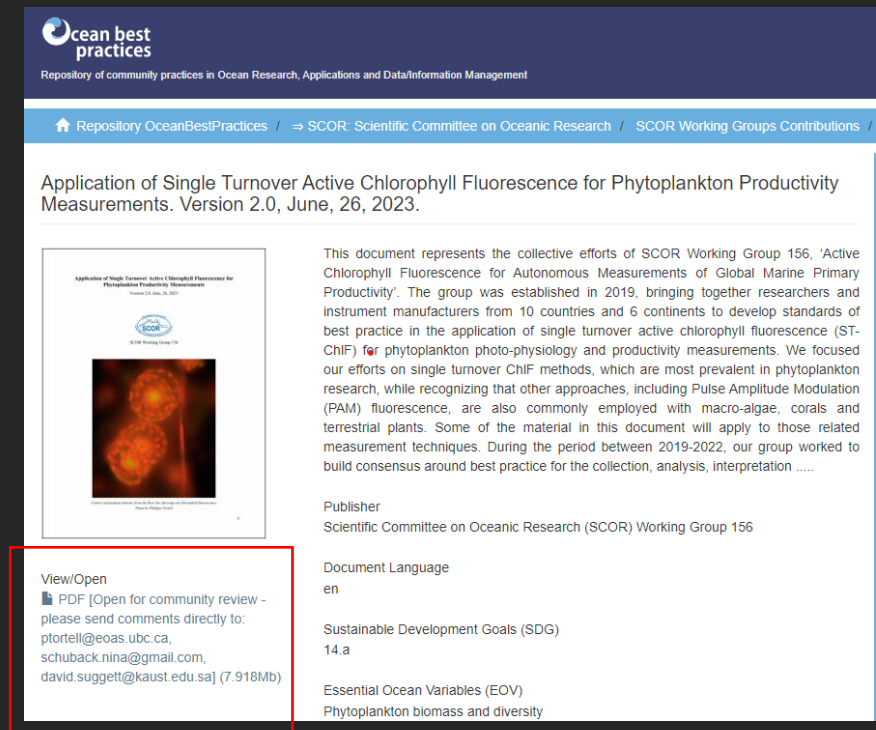
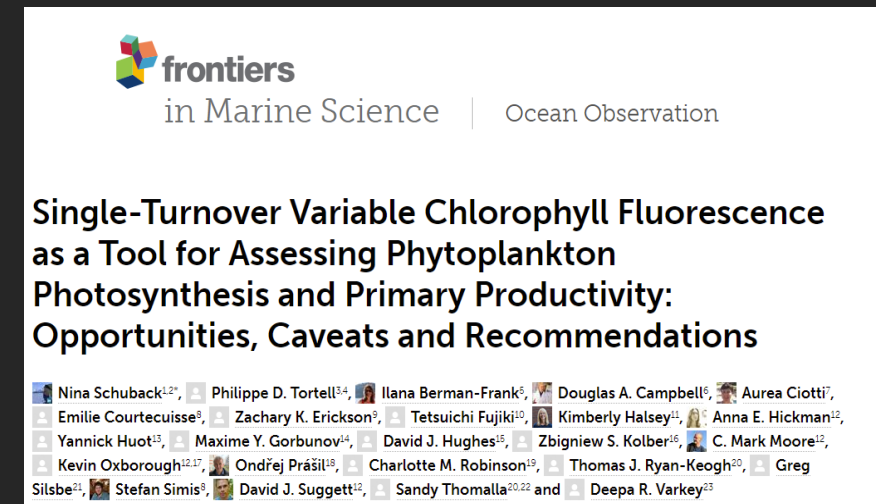


# Major WG Publications

Schuback et al. (2021) *Single-turnover variable chlorophyll fluorescence as a tool for assessing phytoplankton photosynthesis and primary productivity: Opportunities, caveats and recommendations*. *Frontiers in Marine Science* 8, 895. doi:10.3389/FMARS.2021.690607

SCOR WG#156 (2021) *A User Guide for the Application of Single Turnover Active Chlorophyll Fluorescence for Phytoplankton Productivity Measurements*. Version 1. doi: 10.25607/OBP-1084

SCOR WG#156 (2023) *A User Guide for the Application of Single Turnover Active Chlorophyll Fluorescence for Phytoplankton Productivity Measurements*. Version 2. doi: 10.25607/OBP-1084





# Ongoing work

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- Ciotti, Berman-Frank, Schuback:  
Analyzing data collected during 2023 lab visit in Brazil
- Moore, Gorbunov, Ryan-Koegh, Schuback, Oxborough:  
6 week research cruise in Southern Ocean / South Atlantic in December 2023 / January 2024
- Berman-Frank, Hughes, Schuback:  
Collection of inter-comparable datasets from different regions in 2023 / 2024
- Kolber, Gorbunov, Oxborough:  
Making raw data of different instrument types readable by same software