



#### Norwegian Seaweed Biorefinery Platform

### NTNU

### Which Biological Activity?

**Fucoxanthin** 

SIG Seaweed 2021 Leesa J Klau 25-26.11.2021

**Photo: Seaweed Solutions AS** 

#### **Fucoxanthin from Brown Algae**

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#### **Trends in Fucoxanthin Research**

Institution	Country	ТР	Number of Publications					
			1928-1970	1971-1980	1981-1990	1991-2000	2001-2010	2011-2021 *
Hokkaido University	Japan	110	0	0	1	8	33	68
CNRS Centre National de la Recherche Scientifique	France	61	1	0	1	17	17	25
Goethe-Universität Frankfurt am Main	Germany	49	0	0	0	3	13	33
Norges teknisk-naturvitenskapelige universitet	Norway	44	0	7	12	12	8	5
Chinese Academy of Sciences	China	41	0	0	1	1	2	37
Sorbonne Universite	France	39	0	0	1	10	14	14
Kyoto University	Japan	34	0	0	3	8	9	14
Kobe University	Japan	34	0	0	0	1	7	26
Plymouth Marine Laboratory	United Kingdom	33	0	0	1	15	6	11
Pukyong National University	Korea	33	0	0	0	1	2	30

Table 2. Top ten productive institutions in producing fucoxanthin publications from 1928 to June 2021.

TP: Total publications; 2021 \*: up to June 2021.



# Optimization of processes

#### Photosynthesis

Environment

#### **Bioactivities**

Khaw *et al.* 2021. *Mar. Drugs* 19:606 doi:<u>10.3390/md19110606</u>

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Khaw *et al.* 2021. *Mar. Drugs* 19:606 doi:<u>10.3390/md19110606</u> Peng *et al.* 2011. *Mar. Drugs* 9:1806 doi:10.3390/md9101806 5

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#### **The Extraction and Purification Adventure**



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#### **The Extraction and Purification Adventure**

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#### **Geometrical Isomers**

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SIG Seaweed meeting – 25-26.11.2021 leesa.klau@ntnu.no Liaaen-Jensen & Lutnœes **2008**. *Carotenoids* doi:10.1007/978-3-7643-7499-0\_3

### **Degradation**

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#### **Oxidation leads to apo-carotenoids**



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Prof. Reinhard Wimmer (Aalborg University)

Prof. Finn Lillelund Aachmann

Synnøve Strand Jacobsen

Thank you for listening!

Photo: Seaweed Solutions AS