



THE EAST ASIAN SEAS CONGRESS 2015

**Global Targets**  
**Local Benefits**

Setting the Sustainable Development Agenda  
for the Seas of East Asia beyond 2015

16-21 November 2015 • Danang, Vietnam

# Marine Natural Product Chemistry in China and International Cooperation

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## **Marine Biotechnology Industry of China**

- In 2014, marine industry value about ¥ 2500 Billion, marine biotechnology industry 18%, including marine fishery (17%) and marine biological medicine (1%)
- 6.4% growth rate for marine fishery and 12.1% for marine biological medicine

# Marine Natural Products (MNPs)?

- Isolated from marine plants, animals and microorganisms
- Used for drug discovery, novel material, food, etc.
- Green, High added-value,

# Marine Natural Products

## ➤ Drug from The Sea

- Directly used in clinical, including 3 marine natural products (Ziconotide, Trabectedin, Bratuximab vedotin) had been used in clinical
- As lead compounds for drug discovery, such as zidovudine (ATZ) and cephalosporins
- more than 100 in clinical trials phase I and II

# Marine Natural Product Chemistry in China

- Marine Alga and animals had been used as Chinese traditional medicines from 1,000 years ago
- Laboratories were distributed in several sea-side cities, Qingdao, Shanghai, Xiamen, Guangzhou, etc.

# Marine Natural Product Chemistry in China

- Most of marine natural product chemists are pharmaceutical scientists
- about 200 MNPs, tens of Chinese patents in one year
- 1 in clinical application, 1 in clinical trial II



Propylene glycol alginate sodium sulfate

## Workshop 3.3: Blue Economy Development: Where are we now? Where are we headed?

# Institutes



中国海洋大学

School of Medicine and Pharmacy



国家海洋局第三海洋研究所

Third Institute Of Oceanography, State Oceanic Administration



国家微生物资源平台  
National Infrastructure of Microbial Resources



中国海洋微生物菌种  
保藏管理中心



SOUTH CHINA SEA INSTITUTE OF OCEANOLOGY  
CHINESE ACADEMY OF SCIENCES



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## **International Cooperation Programs**

- **Bureau of International Cooperation, NSFC**  
<http://www.nsfc.gov.cn/publish/portal2/>
- **Ministry of Science and Technology of China**  
<http://www.most.gov.cn/eng/cooperation/index.htm>
- **Department of International Cooperation, SOA**  
<http://www.soa.gov.cn/index.html>



# Ocean College, Zhejiang University



## Institute of Marine Biology, Ocean College, ZJU

- 14 scientists, including 3 professors, 3 associate professors
- 2000 m<sup>2</sup> laboratory
- NMR, HR-MS, HPLC

## Workshop 3.3: Blue Economy Development: Where are we now? Where are we headed?

**Thanks for  
your attention!**

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