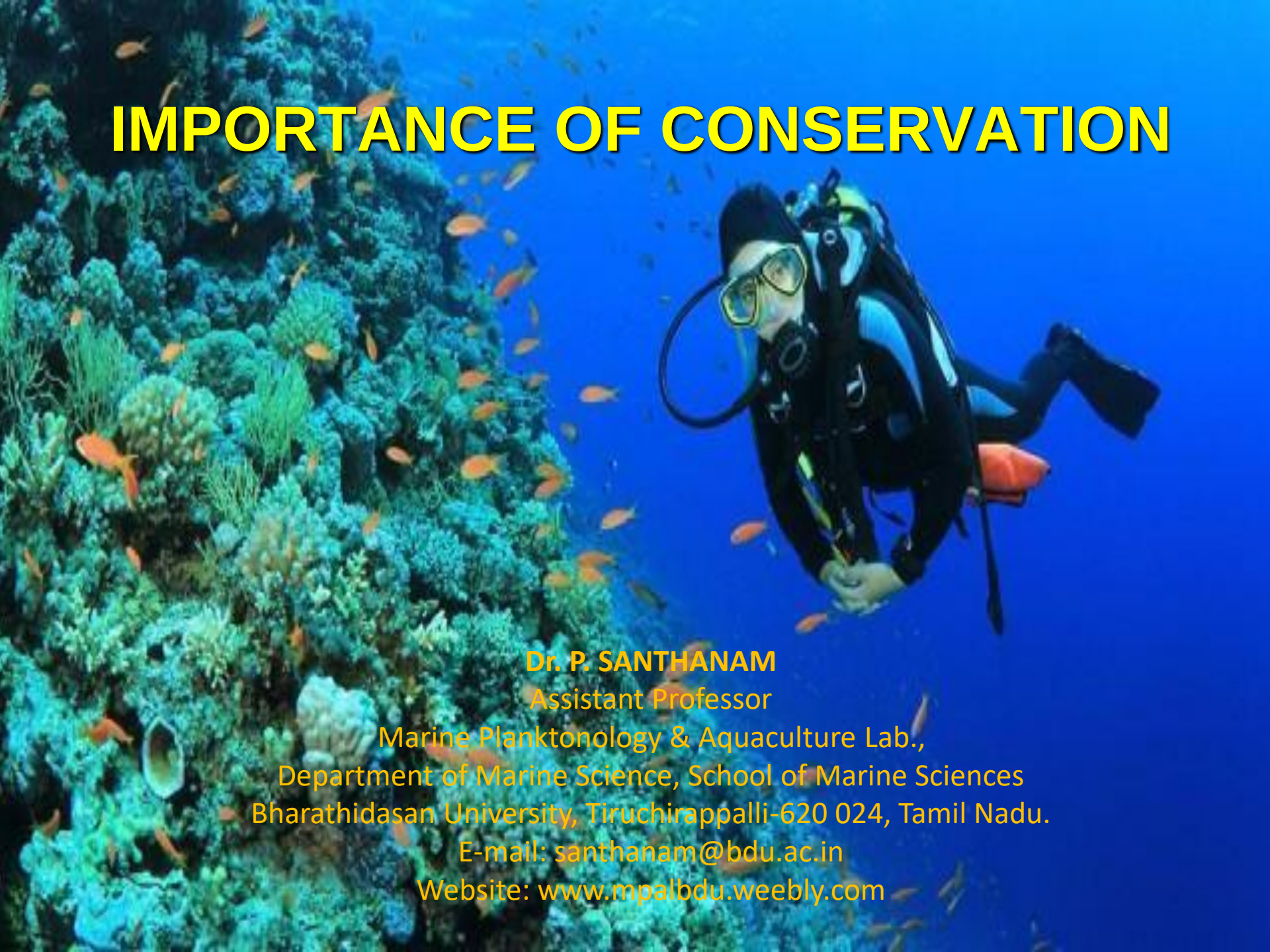
IMPORTANCE OF CONSERVATION



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Importance of Conservation

Source of food

Fish and crustaceans are harvested and making up an important part of the world's diet and providing economic benefit.

About 100 million metric tons of aquatic organisms, including fish, invertebrates and algae are taken from the wild every year.

Tropical shallow water habitats cover 6,037,100 km^2 of the seafloor and support the livelihoods of one billion people worldwide

Importance of Conservation

- Coral reefs alone support 25% of marine biological diversity and provide about US $ 30 billion in net benefits world wide.

- About 80% of our food supply comes from just 20 kinds of plants and although many kinds of animals

- Total fisheries production in 2014 was 167.2 million tones (FAO, 2016). The top producing countries China, Peru, Japan, U.S, Chile, Indonesia, Russia, India, Thailand, Norway and Iceland.

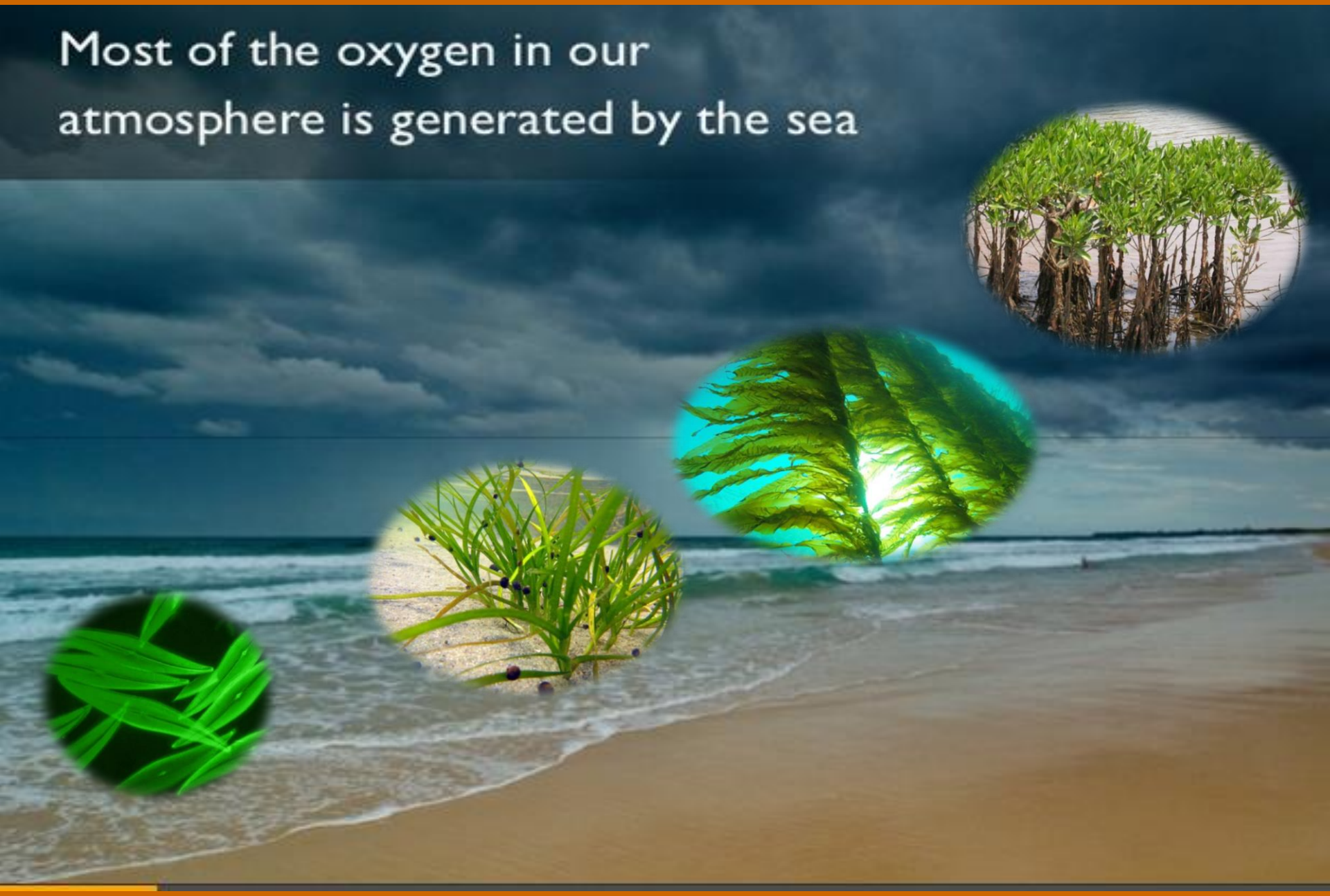
Oceans feed us and sustain us

Fish food supports the livelihoods of one billion people worldwide

- Protects against Heart Disease
- Reduces hyper tension & obesity
- Reduces Risk of Prostate Cancer
- Helps Avoid Depression
- Reduces the risk of type 2 diabetes
- Prevents Alzheimer's
- Fights against Arthritis

- Prevents Asthma
- Shining Hair
- Enhances Skin
- Happy pregnancy
- Improves vision
- Improves Memory

Most of the oxygen in our atmosphere is generated by the sea



Importance of Conservation

Drugs and Medicines

- Many marine organisms give off toxins in order to repel predators
- These toxins can be taken from the marine organisms and utilized in the development of medicines
- Most current medicines come from terrestrial organisms, their effectiveness is decreasing as bacteria and viruses become more resistant to them
- Snail and horse shoe crab have medicinal compound to blood diseases
- The bacteria found on algae, *Bugula neritina* is treating cancer

Importance of Conservation

- *Ulva fasciata* green algae active against EMCV (Encephalomyocarditis Virus)
- Mangrove, *Acanthus illicifolins* against kala-azar and anti-inflammatory
- Dinoflagellates *Goniodoma*, diatom *Skeletonema costatum* produce antimicrobial substances
- *Enteromorpha comfressa, Padina gymnospora, Sargassum wightii & Gracilaria corticata* are have antimicrobial activity.

Importance of Conservation

- A recent highlight of marine natural product research described is the development of a painkilling drug from the venom of a sea snail.
- A novel anticancer drug was first isolated from a sponge
- A potential antiosteoporotic drug extracted from hexacoral.
- The salmon produces a hormone called calcitonin that helps regulate calcium and decreases bone loss.
- For osteoporosis patients, taking salmon calcitonin, which is 30 times more potent than that secreted by the human thyroid gland, inhibits the activity of specialized bone cells called osteoclasts that absorb bone tissue. This enables bone to retain more bone mass.

Importance of Conservation

- FDA approved the first drug based on salmon calcitonin, Calcimar, an injectable form marketed by Rhone-Poulenc Rorer, in 1975. Since then, two drugs made by Novartis and marketed under the trade name Miacalcin--one injectable form and one administered through a nasal spray--were approved.

- An oral version of salmon calcitonin is in clinical trials now. Salmon calcitonin is approved only for postmenopausal women who cannot tolerate estrogen, or for whom estrogen is not an option.

Importance of Conservation

- Compounds called pseudopterosins extracted from the Caribbean sea whip, a type of coral that resembles shrubbery on the sea floor, the compounds are being investigated for use in skin-care products.

- They also appear to have anti-inflammatory properties and could see use someday as treatment for skin irritations resulting from injury or infection.

- One pseudopterosin-based product, is in clinical trials now to develop drugs for inflammatory diseases such as arthritis and asthma.

Importance of Conservation

Industrial Uses

- A wide range of industrial materials are derived from biological resources like timber, oil, lubricants, food flavours, industrial enzymes
- Supplies from animal origin are wool, oil
- Marine algae are source of poly saccharides, feed for livestock and building materials

Importance of Conservation

Tourism and Recreation

- Many parks, forest, wild nature and animals are a source of beauty and joy attract many visitors
- Ecotourism in particular, is a growing outdoor recreational activity
- Coastal area can use SCUBA diving, glass bottom boat rides, and whale watching cruises.

Importance of Conservation

Aesthetic and cultural benefits

- Plants like *Ocimum sanctum* (Tulsi), *Ficus religiosa* (Pipal) and neem trees are planted which are considered sacred and worshipped by the people. Several snakes, birds, dolphins have been considered sacred.

Importance of Conservation

Scientific role of Biodiversity

- Biodiversity is important because each species can give scientist some clue as to how life evolved and will continue to evolve on earth, understand how life functions & role of each sp. in sustaining ecosystems.

Importance of Conservation

Ecosystem Services

Biodiversity is essential to maintain services

- Maintenance of gas
- Climate control by forest & Ocean
- Natural pest control
- Maintenance of water quality
- Formation and protection of soil
- Conservation and purification of water
- Nutrient recycling
- Genetic resources, primary production

CONCLUSION

Marine bioresources are essential to the survival of all life and public needs to be made aware of this for sustainable utilization.