Algae in our backyard : An ArtScience Exploration

Day 1

**Overview**: This course is an exploration of marine algae (phytoplankton) through several scientific and artistic processes. The content will cover several important topics in ocean biology and ocean change, and several key methodologies in both art and science. Students will be exposed to different scientific data, from microscopy (using local water samples for observations) to satellite (using downloadable maps of the South China Sea), and learn how these data help us understand ocean processes and “local” issues that affect the South China Sea. In addition, students will use photography, scientific illustration and data visualization to learn, reflect and communicate the information they have gathered from the microscopes and satellite maps. This will result in a final exhibit combining scientific and artistic processes and findings.

**Structure of the day**: Day 1 will focus on several themes: the role of algae in the health of our oceans and planet, scientific approaches to observing algae in local bodies of water, and the role of art in the process of understanding water and the ocean. We will explore examples of data collected using microscopes and satellite, and examples of how art informs science and our understanding of the water around us. By the end of today, students will have the opportunity to photograph/image some of the microscope and satellite-based observations, adapt the images using photo editing software, and print these images out.

**Learning objectives for the day:**

1. Learn about microscopy and using a microscope to observe phytoplankton
2. Comprehend the link between phytoplankton and human quality of life
3. Explain the effect of human actions on marine life in the South China Sea
4. Discover how artistic & scientific processes are similar and ways they overlap
5. Learn about artists who use water and/or scientific processes in their work
6. Analyze and compare two types of observations of phytoplankton in the South China Sea
7. Learn how to photograph through a microscope and manipulate the photo with an online digital photo editing program

Day 2

**Structure of the day:** Day two will focus on project development, feedback and reflection. The students will come into class with their printed images, and with an idea of how they will illustrate and render the information on these images, and any other microscopic/satellite-based observations into visual art. After drawing, the students will engage in a critique session that exemplifies constructive criticism and a safe space for giving feedback in a classroom. By the end of class, the students will prepare an artist/scientist statement reflecting on their scientific observations and artistic processes.

**Learning objectives of the day:**

1. Learn about and create a scientific illustration based on their photograph/observations.
2. Apply art/design related activities to achieve creativity, collaboration and communication in the classroom