

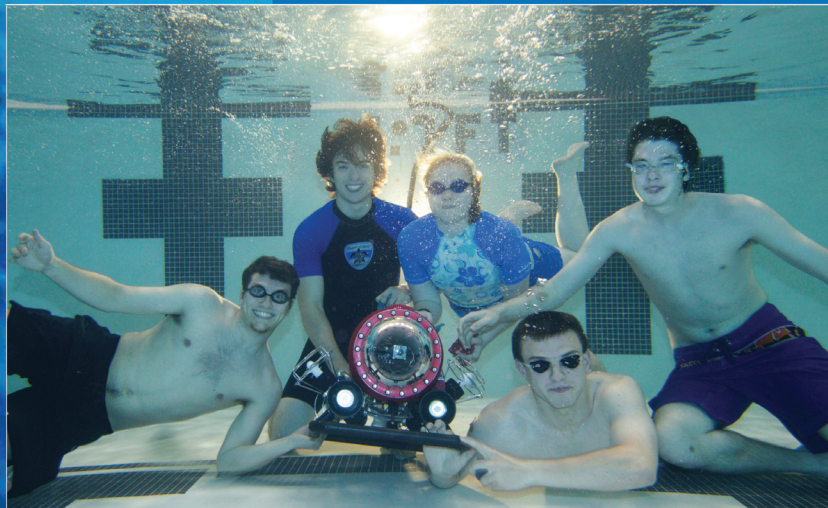


"This is the text and reference book that underwater robotics educators have been waiting for."

Drew Michel, Marine Technology Society ROV Committee Chair

Underwater Robotics: Science, Design & Fabrication

Introduces students, educators, and other aspiring inventors to subsea technology. This incredible resource provides the information needed to design and build underwater vehicles and showcases the many exciting careers available in ocean science, technology, and engineering.



Underwater Robotics Science, Design & Fabrication



MATE
MARINE
ADVANCED
TECHNOLOGY
EDUCATION
CENTER

Steven W. Moore
Harry Bohm
Vickie Jensen



"This book
will become an
instant classic!"

Marty Klein,
side scan sonar pioneer

Underwater Robotics: Science, Design & Fabrication

Dr. Steven W. Moore, Harry Bohm, and Vickie Jensen

This textbook is written for advanced high school classes, college and university entry-level courses, and the underwater technology enthusiast. Each chapter begins with a true scenario that sets the stage for the ocean science, physics, math, electronics, and engineering concepts that follow. The final chapter features step-by-step plans for building *SeaMATE*, a basic shallow-diving ROV. There is also a "What's Next?" section that's full of ideas for modifications and more complex underwater projects.

The 770-page informative text is enhanced by hundreds of photos, illustrations, and diagrams of underwater vehicles. In addition, the textbook includes a discussion of subsea vehicle development, resource appendices, an extensive glossary, and a complete index.

WHAT'S INSIDE?

- Chapters 1-2 provide an introductory overview of manned and unmanned underwater craft (from earliest times to modern day) and suggests pragmatic strategies for designing underwater robots (particularly ROVs).
- Chapters 3-10 introduce the limitations and challenges of working in water then focus on specific technical issues, ranging from structure and materials to power systems and payloads. In each of these topics, the relevant science is paired with practical robotics. The chapters are filled with visual and textual examples, ranging from basic home-built vehicles to complex, commercial craft.
- Chapter 11 and 12 move from theory into hands-on learning. Chapter 11 details how to prepare and carry out missions, particularly those conducted by smaller ROVs. Chapter 12 provides complete plans and instructions for a build-as-you-learn ROV then discusses ideas and strategies for more advanced projects.

CHAPTER 1: Underwater Vehicles

CHAPTER 2: Design Toolkit

CHAPTER 3: Working in Water

CHAPTER 4: Structure and Materials

CHAPTER 5: Pressure Hulls and Canisters

CHAPTER 6: Buoyancy, Stability, and Ballast

CHAPTER 7: Moving and Maneuvering

CHAPTER 8: Power Systems

CHAPTER 9: Navigation and Control

CHAPTER 10: Payloads

CHAPTER 11: Operations

CHAPTER 12: SeaMATE

Textual Aids and Information

- All chapters include an outline, learning outcomes, and summary. Each chapter is introduced by a real-life scenario (called Stories From Real Life) that relates the basic theoretical information of that chapter to an actual subsea event.
- There are over 500 photographs and illustrations throughout this book. The wealth of color photographs helps readers connect with actual examples of subsea robotics. The straight-forward illustrations are designed to expand and explain textual concepts.
- Measurements are given in metric units, generally with imperial equivalents.
- The emboldened terms in the text are defined in the glossary.
- An index helps locate terms.
- The appendices provide helpful tables of information, useful facts, equations, and suggestions for finding materials and resources.

WHEN AND WHERE CAN WE GET IT?

UNDERWATER ROBOTICS: Science, Design & Fabrication
is available NOW!

- ISBN 978-0-9841737-0-9
- Retail cost: \$99.95 U.S. (or \$105 Cdn + HST) with a 10% discount for schools. Shipping is extra.
- No preview copies are available, but sample chapter pages are located at www.marinetech.org/underwater_robotics
- To order, visit Westcoast Words at www.westcoastwords.com or contact Vickie of Westcoast Words at vdjensen@hotmail.com