Foreword

Liquid-cooled cold plates are becoming the workhorses of electronics cooling industry. They deliver an efficient solution that integrates well with a small-scale product such as a remote server as well as large-scale applications such as data centers.

I am very pleased to present this unique book that combines an in-depth thermal and fluid design perspective with practical manufacturing considerations. Oftentimes, these manufacturing details are difficult to find and each manufacturer has to develop such expertise in house. The combination of these two themes in a single source is seen as a major contribution in the area of liquid cooling of electronics component.

We have been very fortunate to gain the exhaustive manufacturing perspective from our coauthor, Clifford N. Hayer II. He brought over 30 years of practical experience and shared it generously prior to his sad demise in the summer of 2013. The book serves as a tribute of our appreciation for his contribution.

Mark Steinke has been a leading researcher at IBM and brings the combined perspective of theoretical design and the practical aspect of electronics cooling. He has been instrumental in presenting some of the solved examples in this book. I was able to present some of the theoretical design considerations and provide a platform for us to bring this book to fruition.

Once again, I would like to thank Begell House for their support in publishing through this contemporary perspective series. In particular, I am thankful to Yelena Shafeyeva, President of Begell House, for her encouragement and support in founding this series. I am also thankful to the Vice-President and Production Manager, Vicky Lipowski, who has been an efficient yet kind project manager, and helped us bring out the book in a timely manner. I would also like to extend my heartfelt thanks to Wendy Weitz, typesetter, for taking extra care in preparing the text. The support and tireless efforts by all Begell House staff is also gratefully acknowledged.

Satish G. Kandlikar
Chief and Founding Editor.
Contemporary Perspectives in Emerging Technologies Series
Begell House, Inc.
Gleason Professor of Mechanical Engineering
Rochester Institute of Technology,
Rochester, NY