

<b>1.</b>	<b>A Systematic Approach to Generation of New Ideas for PhD Research in Computing</b>	<b>1</b>
V. Blagojević, D. Bojić, M. Bojović, M. Cvetanović, J. Đorđević, Đ. Đurđević, B. Furlan, S. Gajin, Z. Jovanović, D. Milićev, V. Milutinović, B. Nikolić, J. Protić, M. Punt, Z. Radivojević, Ž. Stanislavljević, S. Stojanović, I. Tartalja, M. Tomašević, and P. Vuletić		
1. Introduction	2	
2. Classification of Innovation Methods	4	
3. Representative Examples From the Authors' PhD Theses	11	
4. Conclusions	20	
Acknowledgments	21	
References	21	
About the Authors	25	
<b>2.</b>	<b>Exploring Future Many-Core Architectures: The TERAFLUX Evaluation Framework</b>	<b>33</b>
R. Giorgi		
1. Introduction	35	
2. Terminology and Related Work	37	
3. COTSon Framework Organization	45	
4. Targeting a 1000-Core Simulation	46	
5. How to Simulate 1000 Cores	49	
6. The Search for "Efficient Benchmarks"	60	
7. Simulation Experiments	61	
8. Conclusions	66	
Acknowledgments	66	
References	66	
About the Author	72	
<b>3.</b>	<b>Dataflow-Based Parallelization of Control-Flow Algorithms</b>	<b>73</b>
N. Korolija, J. Popović, M. Cvetanović, and M. Bojović		
1. Introduction	74	
2. Problem Statement	78	

3. Dataflow Approaches and the Feynman Paradigm	80
4. Existing Solutions and Their Criticism	88
5. Exploring Dataflow Potentials	103
6. Performance Evaluation	113
7. Conclusions	118
Acknowledgments	119
Appendix	119
References	120
About the Authors	123
<b>4. Data Flow Computing in Geoscience Applications</b>	<b>125</b>
L. Gan, H. Fu, O. Mencer, W. Luk, and G. Yang	
1. Introduction	126
2. Data Flow Computing in HPC	128
3. Geoscience Applications in HPC	131
4. Case Study 1: Global Shallow Water Equations	133
5. Case Study 2: Euler Atmospheric Equations	140
6. Case Study 3: Reverse Time Migration	147
7. Summary and Concluding Remarks	153
Acknowledgments	153
Appendix	154
References	155
About the Authors	156
<b>5. A Streaming Dataflow Implementation of Parallel Cocke–Younger–Kasami Parser</b>	<b>159</b>
D. Bojić and M. Bojović	
1. Introduction	160
2. Problem Statement	161
3. Existing Solutions and Their Criticism	170
4. A Dataflow Implementation of a CYK Parser	180
5. Performance Analysis	184
6. Conclusion	190
Acknowledgment	191
Appendix	191
References	197
About the Authors	199
<i>Author Index</i>	201
<i>Subject Index</i>	209
<i>Contents of Volumes in this Series</i>	215