

CONTENTS OF VOLUME 11
Journal of Enhanced Heat Transfer
Page Ranges of Issues
Issue 1: 1–86; Issue 2: 87–182; Issue 3: 183–248; Issue 4: 249–483

ISSUE 1

Professor Paul J. Marto, on the Occasion of His 65th Birthday <i>Raj M. Manglik & Ralph L. Webb</i>	vi
Increase in Mass Transfer by the Onset of Taylor–Couette–Wise Vortices <i>Laurent Gbahoué</i>	1
Turbulent Heat Transfer Enhancement of Microencapsulated Phase Change Material Slurries with Constant Wall Heat Flux <i>Wang Xin, Zhang Yinping, & Hu Xianxu</i>	13
Enhancement of Pool Boiling on Structured Surfaces Using HFC-4310 and Water <i>Liang-Han Chien & C. C. Chang</i>	23
Heat Transfer and Fluid Flow in Rectangular Fin and Elliptic Tube Heat Exchangers under Dry and Dehumidifying Conditions <i>Jin-Sheng Leu, Shin-Li Chen, & Jiin-Yuh Jang</i>	43
Numerical Analyses of Effects of Tube Shape on Performance of a Finned Tube Heat Exchanger <i>Jingchun Min & Ralph L. Webb</i>	61
Mechanistic Modeling of Steam Condensation onto Finned Tube Heat Exchangers in Presence of Noncondensable Gases and Aerosols, Under Cross-Flow Conditions: Aerosol Fouling and Noncondensable Gases Effects on Heat Transfer <i>J. L. Muñoz-Cobo, A. Escrivá, & L. E. Herranz</i>	75

ISSUE 2

Enhanced Heat and Mass Transfer in the New Millennium: A Review of the 2001 Literature <i>Raj M. Manglik & Arthur E. Bergles</i>	87
Bionic Optimization of Heat Transport Paths for Heat Conduction Problems <i>Zai-Zhong Xia, Xin-Guang Cheng, Zhi-Xin Li, & Zeng-Yuan Guo</i>	119
Effects of Surface Coating on the Critical Heat Flux for Pool Boiling from a Downward Facing Surface <i>M. B. Dizon, J. Yang, F. B. Cheung, J. L. Rempe, K. Y. Suh, & S.-B. Kim</i>	133
Using Capsulated Liquid Metal Fins for Heat Transfer Enhancement <i>T. K. Aldoss, M. A. Al-Nimr, & M. A. Hader</i>	151
Condensation Heat Transfer and Pressure Drop of Brazed Plate Heat Exchangers Using Refrigerant R-134a <i>Amir Jokar, Steven J. Eckels, Mohammad H. Hosni, & Thomas P. Giolda</i>	161

ISSUE 3

Experimental Determination of Heat Transfer and Friction Correlations for Plate Fin-and-Tube Heat Exchangers <i>D. Taler</i>	183
Performance and Configuration Improvements for a Thermoelectric Dehumidifier <i>F. J. Wang & J. S. Chiou</i>	205
Prediction of Moist Air Wet Processes in Cooling Coils and Cooling Towers <i>Jianfeng Wang & Eiji Hihara</i>	217
Boiling Heat Transfer Characteristics from a Horizontal Tube Embedded in a Porous Medium with Acoustic Excitation <i>D. W. Zhou, D. Y. Liu, & Ping Cheng</i>	231

ISSUE 4

Papers from the
International Symposium on Heat Transfer Enhancement and Energy Conservation
(ISHTEEC'2003)

Guest editors: Zeng-Yuan Guo and Chong-Fang Ma

Editorial	<i>vii</i>
<i>Ralph L. Webb, Editor-in-Chief</i>	
An Empirical Correlation for EHD Enhanced Natural Convection Heat Transfer Along a Plate Surface	249
<i>Wang Fa-gang & Liu Yong-qi, Li Rui-yang, Yu Hong-ling, & Lin Zong-hu</i>	
A New Mechanism for Condensation Heat Transfer Enhancement: Effect of the Surface Free Energy Difference of Condensate and Solid Surface	257
<i>Ma Xue-Hu, Chen Xiao-Feng, Bai Tao, & Chen Jia-Bin</i>	
Experimental Investigation of Heat Transfer Capability of Falling Film Evaporation in the Vertical Tube with Spring Inserts	267
<i>Tao Jinliang, Shi Xiaoping, & Qiao Liang</i>	
Condensation Heat Transfer and Pressure Drop of R22 in 5-mm Diameter Microfin Tubes	275
<i>Wu Xiaomin, Wang Xiaoliang, & Wang Weicheng</i>	
Heat Transfer Enhancement at Boiling Crisis in Straight and Spiral Tubes	283
<i>Yu. A. Kuzma-Kichta & A. S. Komendantov, Yanhua Yang, B. Kuang, & R.N. Bolshakov</i>	
EHD Boiling Heat Transfer Enhancement Outside Horizontal Tubes	291
<i>Yu Hong-Ling, Li Rui-Yang, Huang Xuan, & Chen Zhi-Hang</i>	
Enhancement of Boiling Heat Transfer for R11 and R123 by Applying Uniform Electric Field	299
<i>Huang Xuan, Li Rui-Yang, & Yu Hong-Ling</i>	
Numerical Study on Low Reynolds Number Convection in Alternate Elliptical Axis Tube	307
<i>Meng Ji-An, Liang Xing-Gang, Li Zhi-Xin, & Guo Zeng-Yuan</i>	
Phase-Change Heat Transfer in Micro-Capillary Grooves	315
<i>Zhao Y.H., Hu X.G., Tsuruta T., & Yamamoto K.</i>	
Experimental Study on Heat Transfer Enhancement in Natural Convection in Limited Space by Using Delta-Winglet Longitudinal Vortex Generators	325
<i>Feng Guang-chang, Yang Ze-liang, & Wang Tao</i>	

Field Coordination of Air Convection Heat Transfer in Rectangular Channel with Magnetic Field <i>Yang Lijun, Ren Jianxun, & Song Yaozu</i>	331
Research on Twisted Strip with Asymmetric Oblique Teeth <i>Yu Tianlan, Peng Deqi, & Yu Xiumin</i>	341
Numerical Predictions of Fluid Flow and Heat Transfer in Corrugated Channels Using Time-Dependent and Time-Independent Flow Models <i>Xu Wei & Min Jingchun</i>	347
Performance Comparison Between Wire Coil and Twisted Tape Inserts <i>Karl Ponweiser, Wladimir Linzer, & Marina Malinovec</i>	359
Heat Transfer Augmentation for the Flow of Highly Viscous Fluids in Tubes Using Cross Trapezoid Wave Tape Inserts <i>He Lu, Zhu Dongsheng, Fan Zhongleim & Wang Shengwei</i>	371
Numerical Simulation on Heat Transfer Enhancement in Twisted-Tape-Inserted Tubes <i>Yuki Kazuhisa, Hashizume Hidetoshi, Toda Saburo, & Sato Chikahiro</i>	379
Experimental Investigation of Convection Heat Transfer in Mini-Fin Structures and Sintered Porous Media <i>Pei-Xue Jiang, Rui-Na Xu, & Meng Li</i>	391
A Novel Micro Cooling System for Electronic Devices Using a Micro Capillary Groove Evaporator <i>Hu Xuegong, Zhao Yaobua, Yan Xiaohong, & T. Tsuruta</i>	407
Experimental Investigation on Fouling Performance of Corrugated Tubes <i>Xu Zhiming, Yang Shanrang, & Gan Yunhua</i>	417
Performance Evaluation of Deep Spirally Corrugated Tubes for Shell-and-Tube Heat Exchangers <i>Ventsislav Zimparov & Plamen Penchev</i>	423
Applications of the Field Synergy Principle in Developing New Type Heat Transfer Enhanced Surfaces <i>Tao W.Q., He Y.L, Qu Z.G., & Cheng Y.P.</i>	435
Numerical Verification of the Field Synergy Principle for Turbulent Flow <i>Zeng Min & Tao Wen-Quan</i>	453
Mathematical Model and Numerical Simulation of Helical Baffles Heat Exchanger <i>Shen Renjie, Feng Xiao, & Gao Xiaodong</i>	461
Experimental Investigation of Flat Miniature Heat Pipes with Three Kinds of Micro Grooves <i>Fan Chunli, Sun Fengrui, Yang Li, Chen Lingen, Qu Wei & Ma Tongze</i>	467

INDEX TO AUTHORS IN VOLUME 10

Journal of Enhanced Heat Transfer

Page Ranges of Issues

Issue 1: 1–86; Issue 2: 87–182; Issue 3: 183–248; Issue 4: 249–483

- | | | |
|--------------------------|--|---------------------------------------|
| Aldoss, T. K., 151 | Huang Xuan, 291, 299 | Suh K. Y., 133 |
| Al-Nimr, M. A., 151 | | Sun Fengrui, 467 |
| Bai Tao, 257 | Jang Jiin-Yuh, 43 | Taler, D. 183 |
| Bergles, Arthur E., 87 | Jiang Pei-Xue, 391 | Tao Jinliang, 267 |
| Bolshakov, R.N., 283 | Jokar, Amir, 161 | Tao Wen-Quan, 435, 453 |
| | Kim S.-B., 133 | Toda Saburo, 379 |
| Chang C. C., 23 | Komendantov, A. S., 283 | Tsuruta T., 315 |
| Chen Jia-Bin, 257 | Kuang B., 283 | Tsuruta T., 407 |
| Chen Lingen, 467 | Kuzma-Kichta, Yu. A., 283 | |
| Chen Shin-Li, 43 | | Wang F. J., 205 |
| Chen Xiao-Feng, 257 | Leu Jin-Sheng, 43 | Wang Fa-gang, 249 |
| Chen Zhi- Hang, 291 | Li Meng, 391 | Wang Jianfeng, 217 |
| Cheng Ping, 231 | Li Rui-yang, 249, 291, 299 | Wang Shengwei, 371 |
| Cheng Xin-Guang, 119 | Li Zhi-Xin, 119, 307 | Wang Tao, 325 |
| Cheng Y.P., 435 | Liang Xing-Gang, 307 | Wang Weicheng, 275 |
| Cheung F. B., 133 | Lin Zong-hu, 249 | Wang Xiaoliang, 275 |
| Chien Liang-Han, 23 | Linzer, Wladimir, 359 | Wang Xin, 13 |
| Chiou J. S., 205 | Liu D. Y., 231 | Webb, Ralph L., 61, Issue 1 <i>vi</i> |
| | Liu Yong-qi, 249 | Wu Xiaomin, 275 |
| Dizon, M. B., 133 | | |
| | Ma Tongze, 467 | Xia Zai-Zhong, 119 |
| Eckels, Steven J., 161 | Ma Xue-Hu, 257 | Xu Rui-Na, 391 |
| Escrivá, A., 75 | Malinovec, Marina, 359 | Xu Wei, 347 |
| | Manglik, Raj M., 87, Issue 1 <i>vi</i> | Xu Zhiming, 417 |
| Fan Chunli, 467 | Meng Ji-An, 307 | |
| Fan Zhongleim, 371 | Min Jingchun, 61, 347 | Yamamoto K., 315 |
| Feng Guang-chang, 325 | Muñoz-Cobo, J. L., 75 | Yan Xiaohong, 407 |
| Feng Xiao, 461 | | Yang Li, 467 |
| | Penchev, Plamen, 423 | Yang Lijun, 331 |
| Gan Yunhua, 417 | Peng Deqi, 341 | Yang Shanrang, 417 |
| Gao Xiaodong, 461 | Ponweiser, Karl, 359 | Yang Yanhua, 283 |
| Gbahoué, Laurent, 1 | | Yang Ze-liang, 325 |
| Gielda, Thomas P., 161 | Qiao Liang, 267 | Yang, J., 133 |
| Guo Zeng-Yuan, 119, 307 | Qu Wei, 467 | Yu Hong-ling, 249, 291, 299 |
| | Qu Z.G., 435 | Yu Tianlan, 341 |
| Hader, M. A., 151 | | Yu Xiumin, 341 |
| Hashizume Hidetoshi, 379 | Rempe, J. L., 133 | Yuki Kazuhisa, 379 |
| He Lu, 371 | Ren Jianxun, 331 | |
| He Y.L., 435 | | Zeng Min, 453 |
| Herranz, L. E., 75 | Sato Chikahiro, 379 | Zhang Yinping, 13 |
| Hihara, Eiji, 217 | Shen Renjie, 461 | Zhao Yaohua, 315, 407 |
| Hosni, Mohammad H., 161 | Shi Xiaoping, 267 | Zhou D. W., 231 |
| Hu Xianxu, 13 | Song Yaozu, 331 | Zhu Dongsheng, 371 |
| Hu Xuegong, 315, 407 | | Zimparov, Ventsislav, 423 |

INDEX TO KEYWORDS IN VOLUME 11

Journal of Enhanced Heat Transfer

Page Ranges of Issues

Issue 1: 1–86; Issue 2: 87–182; Issue 3: 183–248; Issue 4: 249–483

- acoustic cavitation, 231
aerosol fouling, 75
air conditioning, 161
air-cooled heat exchangers, 183
air-side heat transfer coefficient, 183
attack angle, 433
automotive radiators, 183
- bionic optimization, 119
boiling heat transfer enhancement, 291, 299
boiling hysteresis, 231
boiling, 23, 315
- capsulated fins, 151
capsulated liquid fins, 151
capsulated liquid metal, 151
capsulated liquid metal fins, 151
condensation, 87, 161
constant wall heat flux, 13
convection heat transfer, 331, 391
conventional fins, 151
cooling coil, 217
cooling tower, 217
corrugated channel, 347
critical heat flux, 133
- deep corrugated tube, 423
dehumidifier, 205
downward facing boiling, 133
dry and dehumidifying condition, 43
- EHD, 291, 299
electrochemical measurements, 1
electronics cooling, 465
elliptic tube, 43
enhancement, 1, 23, 87, 231
evaporation resistance, 23
evaporation, 407
evolution principle, 119
experiment, 391
- experimental method, 183
- field coordination principle, 331
field synergy principle, 433, 451
fin efficiency, 43
finned tubes, 75
fins, 151
flat miniature heat pipes, 465
flow boiling, 87
force moment, 341
fouling, 87
friction factors, 183
- heat conduction, 119
heat exchanger, 61, 459
heat transfer coefficient, 61, 275
heat transfer enhancement, 325, 331, 341, 423
heat transfer potential, 217
heat transfer, 231, 347
helical baffles, 459
helix angle, 275
- limited space, 325
liquid level, 407
LMED, 217
LMTD, 217
longitudinal vortex, 325
longitudinally finned tube, 433
- magnetic quadrupole field, 331
magnetothermal convection, 331
mathematical models, 459
meniscus, 315
micro capillary grooves, 407
micro cooling system, 407
micro heat pipe, 465
microencapsulated phase change slurries, 13
microfin tubes, 275
micro-groove, 315
mini-fin, 391

- moist air, 217
- natural convection, 325
- noncondensable gases, 75
- numerical calculation, 61
- numerical simulation, 183, 451, 459
- oval tube, 61
- performance evaluation criteria, 423
- performance improvement, 205
- plate heat exchangers, 161
- pool boiling, 87
- porous media, 391
- porous medium, 231
- pressure drop, 161, 275, 347, 61
- rectangular fin, 43
- refrigeration system, 161
- single-phase convection, 87
- slotted fin surface, 433
- solid fins, 151
- steam condensation, 75
- strip location, 433
- surface coating, 133
- Taylor instabilities, 1
- thermoelectric, 205
- thin liquid film, 465
- three-phase contact line, 315
- time-dependent model, 347
- transfer phenomena, 1
- tubes, 291
- turbulent flow, 451
- turbulent heat transfer enhancement, 13
- twisted strip, 341
- two-phase flow, 161
- uniform electric field, 299
- volume fraction, 407