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BEGELL 产品介绍

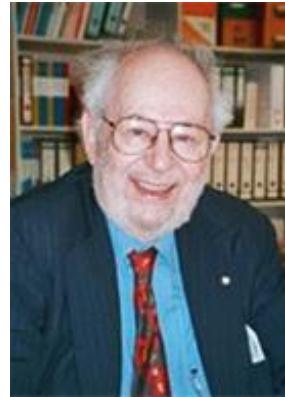
03

BEGELL 特色资源



01

BEGELL 出版社介绍



BEGELL HOUSE出版社由WILLIAM BEGELL 博士于1991年在美国创办。

WILLIAM BEGELL博士（1927-2009）是一位在化学工程等方面享有盛名的工程师和科学家，精通英语、德语、俄语，对工程和生物医学的发展趋势有着敏锐的洞察力。曾在哥伦比亚大学任教。

2005年，被授予“美国机械工程师协会热交换分会杰出贡献奖”。



威廉•伯格奖 (THE WILLIAM BEGELL MEDAL) ,
国际传热界最高奖项, 由国际传热传质中心
(ICHMT) 执行委员会、国际传热大会理事
会 (AIHTC) 及 BEGELL HOUSE 出版社共同设立。

威廉•伯格奖因其严格的评选程序和重要分
量, 被视为传热学界的“终身成就奖”。

每4年颁发1次, 每次全球仅选出1名。

2014 International Heat Transfer Conference 15



清华大学: 刘静

Ways Toward Targeted Freezing Or Heating Ablation
Of Malignant Tumor: Precisely Managing The Heat
Delivery Inside Biological Systems.

2023 International Heat Transfer Conference 17



上海交通大学: 赵长颖

For his lifetime achievements in and
contributions to the field of thermal
sciences and engineering



清华大学刘静教授获得国际传热界威廉·伯格奖

清华新闻网8月20日电 近日，在日本京都国际会议中心举行的2014国际传热大会上，清华大学刘静教授获得国际传热界最高奖项之一：威廉·伯格奖（The William Begell Medal），他并以“通向恶性肿瘤靶向冷冻或热消融治疗的途径：生物体系内热量的精准输运”为题作了45分钟大会主题报告。这是中国科学家首次获得国际传热界最高奖项和荣誉。



图为刘静教授从Begell House副总裁Vivian Wang女士手中接过威廉·伯格奖牌。



02

BEGELL 内容介绍

BEGELL DIGITAL LIBRARY 内容特点

1. Begell House出版社是一家独立的学术出版机构，提供工程技术与生物医药科学应用方面最新的研究成果及相关信息。
2. BDL收录期刊全文没有被其他数据库收录。
3. BDL期刊被国际权威检索机构SCI、EI、Pubmed、Scopus等收录。
4. BDL在美国非常受欢迎，有百余所高校和机构使用。

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能源

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电磁

航空航天



BDL数字图书馆

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IHTC会议录

Begell House 是IHTC独家出版机构。



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HEDH手册

热交换机设计手册：热交换机设计及相关技术上的全球标准参考资源；超过8000个技术术语，视觉导航树状图



03

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The Engineering Research Collection



The Biomedical Research Collection

A-Z

A-Z Begell eBooks

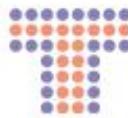
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THERMOPEDIA



HEDH Multimedia



Directory of Specialists



The Catalog of Worldwide Nuclear Testing



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References



Annual Review of Heat Transfer



Electrospinning of Micro- and Nanofibers

Series in Contemporary Perspectives in
EMERGING TECHNOLOGIES

Series Editor: Satish G. Kandlikar



Proceedings

BDL工程研究选集

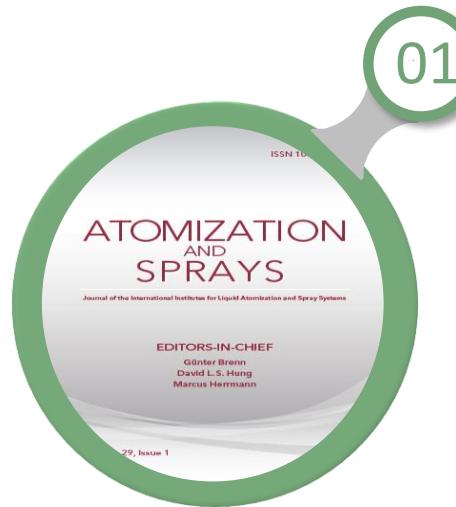
学科范围：

涉及热能工程、纳米、能源、环境、核科学、动力工程、材料、无线电通讯等学科，汇集了30多年来热能与流体科学领域最先进的理论和工程应用研究成果。

资源类型：

- 31种期刊全文
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- 4个数据资料库
- 4种会议录和参考文献资料

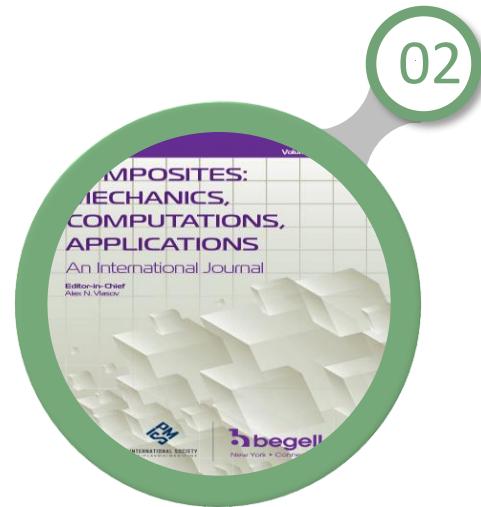
BEGELL 特色期刊



雾化与喷雾
IF: 1.864

唯一一本收录雾化和喷雾所有相关科技领域的同行评审期刊。

亚洲主编: David Hung
上海交通大学



合成材料: 力学、计算和应用

俄国及东欧国家的期刊原文&英文原版文章;

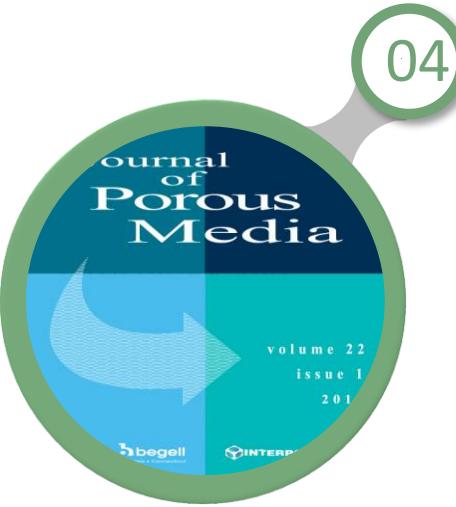
随着纳米科技的发展, 材料学变得愈发重要。合成材料在材料学领域的地位更是关键!



传热研究
IF: 2.443

ASME (美国机械工程师学会) 赞助; 翻译俄罗斯、乌克兰和白俄罗斯等国家知名期刊

咨询委员会:
Ping Chen (上海交通大学)
陶文泉 (西安交通大学)



多孔介质期刊
IF: 1.782

唯一出版多孔介质研究涉及的广泛领域内的评论和专题研究的期刊。

编辑:
GONGNAN XIE (西北工业大学)
Ping Chen (上海交通大学)



- ▶ 中文名称：
《传热研究》
- ▶ 出版物介绍：
由ASME（美国机械工程师学会）的传热研究机构赞助，期刊翻译了俄罗斯、乌克兰和白俄罗斯期刊、会议录和实验报告中挑选出的重大技术和实验论文，涵盖了整个传热流域，如传导、对流、辐射、沸腾现象、换热器设计和测试、核反应堆的热转移、传质、地热回收等领域。

Heat Transfer Research

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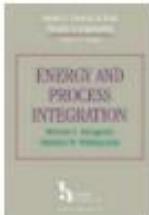
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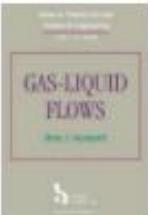
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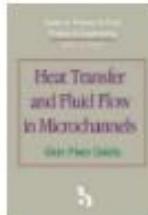
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Liquid Cooled Heat Sinks for
Electronics Cooling



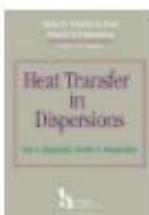
Energy and Process
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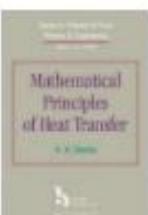
Gas-Liquid Flows



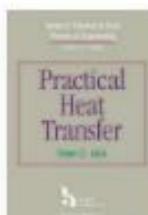
Heat Transfer and Fluid Flow
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Heat Transfer in Dispersions



Mathematical Principles of
Heat Transfer



Practical Heat Transfer



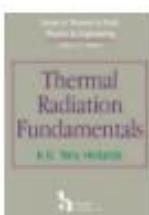
Practical Thermal Design of
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Practical Thermal Design of
Shell-and-Tube Heat
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Radiative Transfer in
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Thermal Radiation
Fundamentals



Thermophysical Properties of
Pure Fluids and Aqueous
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Computational Methods for
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2. The Catalog of Worldwide Nuclear Testing (全球核试验目录)
3. Worldwide Directory of Specialists in Thermal & Fluids Science and Engineering (热流体科学与工程全球专家索引)
4. Heat Exchanger Design Handbook (HEDH) (换热器设计手册)

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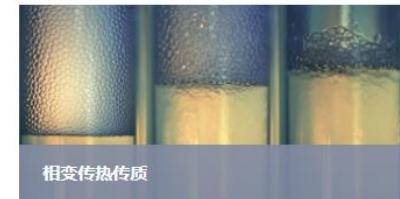
了解基于热力学、传热和流体力学基础知识的应用热流体的新颖研究、创新和突破。



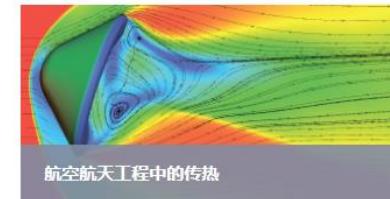
THA 重点
“通过 Thermopedia 学习和启发”

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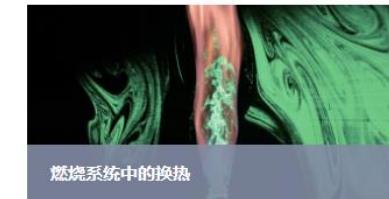
基础科学与工程



相变传热传质



航空航天工程中的传热



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应用工程与技术



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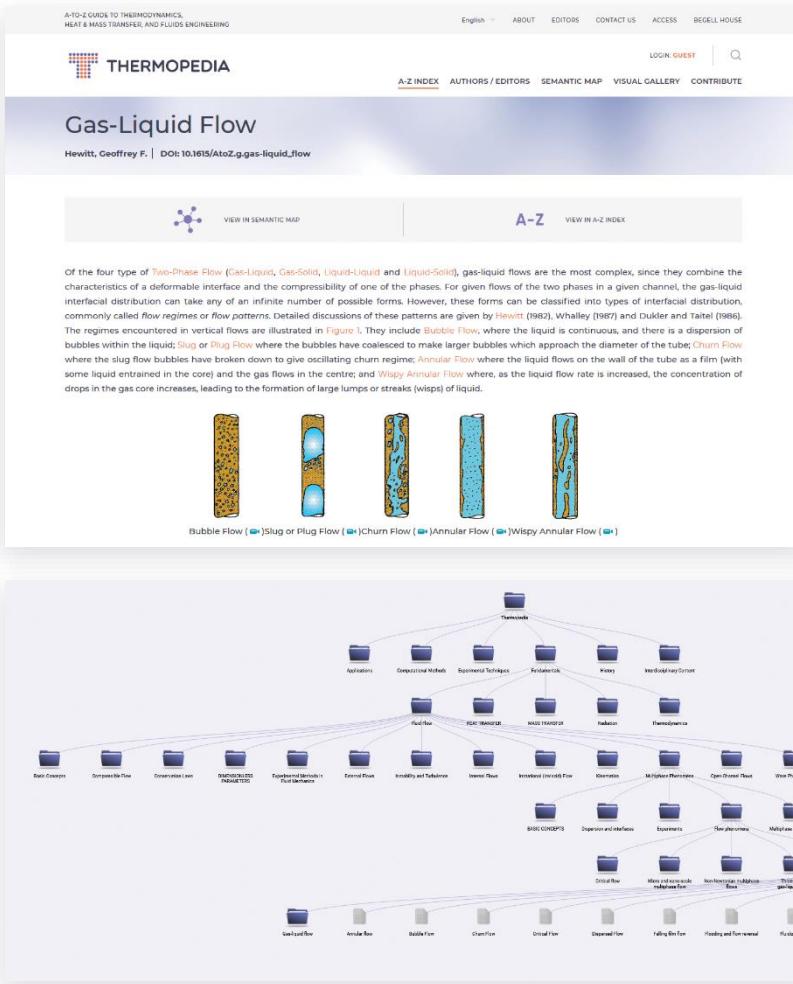
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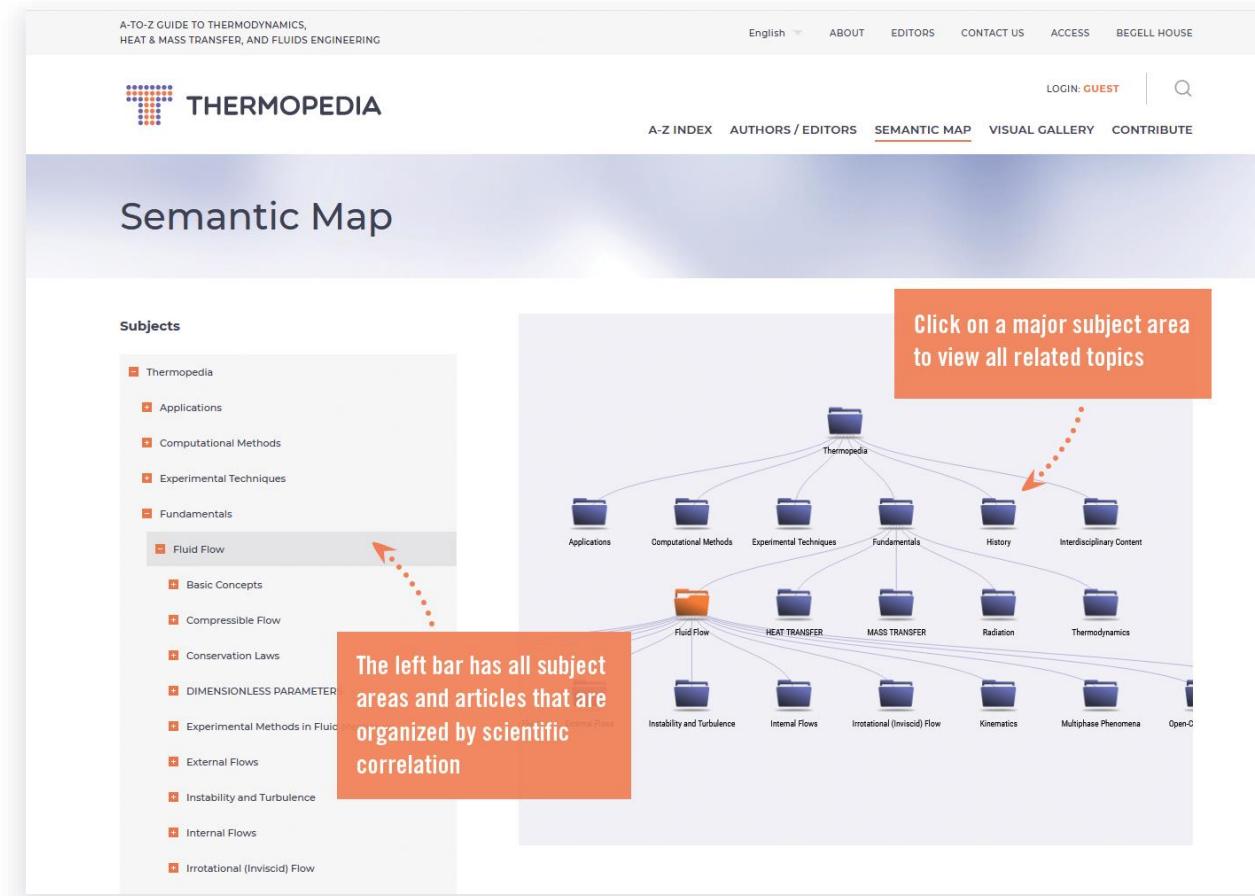
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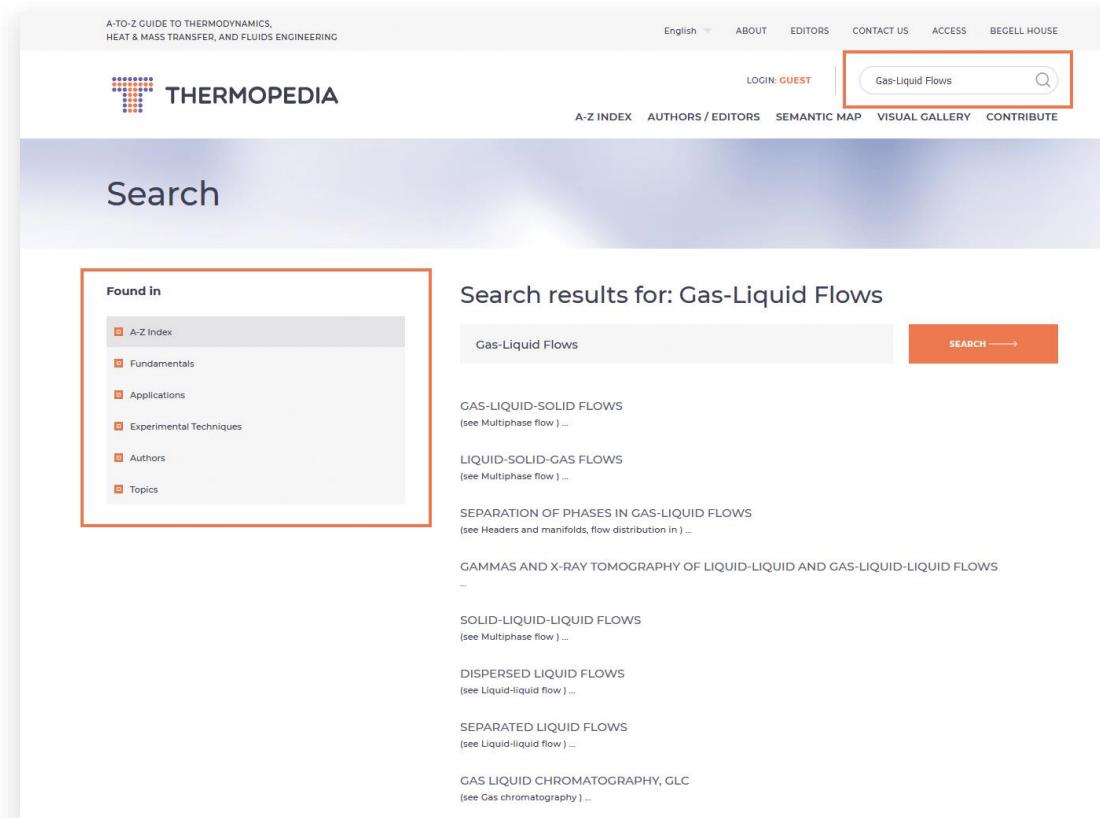
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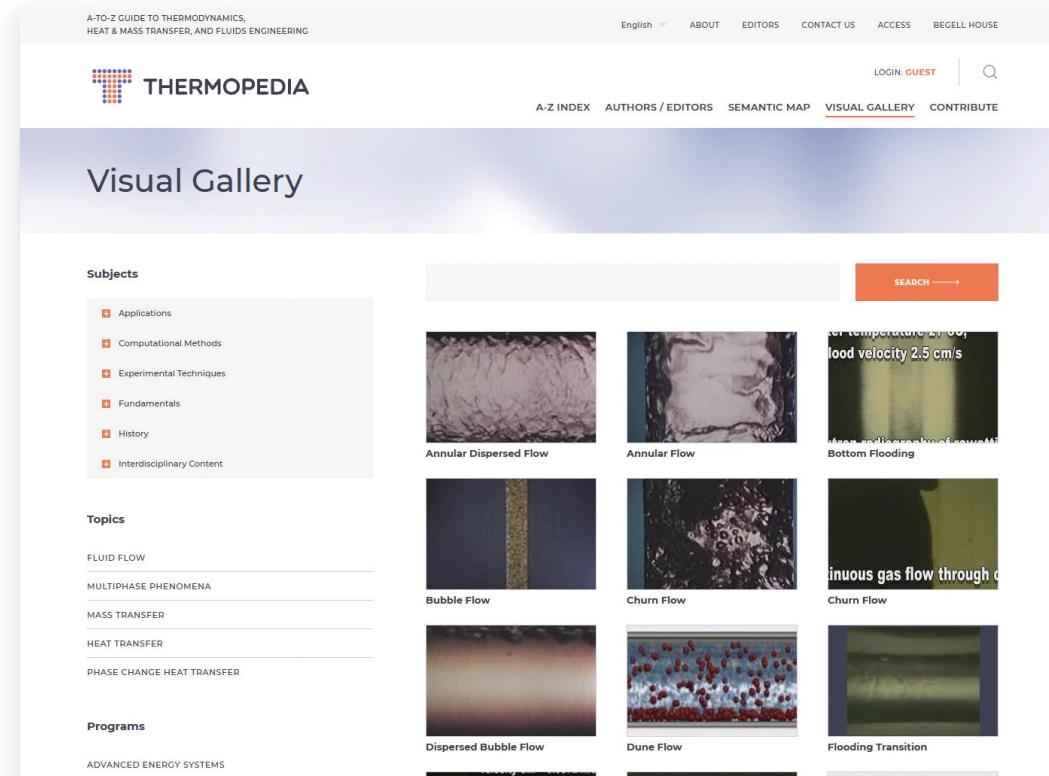
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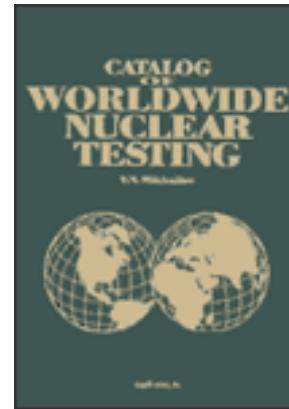
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The Catalog of Worldwide Nuclear Testing (全球核试验目录)



由前俄罗斯原子能部长Victor Mikhailov主编，包括美国、前苏联、英国、法国、中国实施的超过2000次核实验的各方面的重要的信息和数据，还包括了最近印度和巴基斯坦实施的核实验。被认为是国际上有关领域覆盖最全，最详细的数据收载。

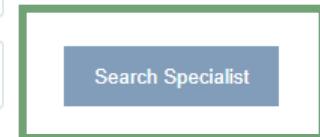
First, Last name:

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Country:

CHINA

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Last Name	First Name	Specialisation Area	Country
He	Ya-Ling	Condensation, Conduction, Equations of state, Forced convection, Irreversible thermodynamics, Melting, Multiphase flow modelling, Porous Media	CHINA



Ya-Ling He

Position: Associate Editor of Heat Transfer Research

Institution: Key Laboratory of Thermo-Fluid Science and Engineering, Ministry of Education, School of Energy and Power Engineering, Xi'an Jiaotong University, Xi'an, Shaanxi 710049, China

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Home page: <http://gr.xjtu.edu.cn/web/yalingheen>

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Membership	Awards	Education	Experience	BH Publications	Other Publications	Roles	Co-Authors
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Journals:

HEAT TRANSFER RESEARCH

Zhixiong Guo, Oleg G. Penyazkov, James P. Hartnett, Xinwei Wang, Partha S. Ghoshdastidar, Thomas F. Irvine, Jr., Ya-Ling He, Oleg G. Martynenko, Bengt Sundén, Natalia K. Shveyeva

Articles:

3D NUMERICAL SIMULATION ON LAMINAR HEAT TRANSFER AND FLUID FLOW CHARACTERISTICS OF SLITTED FIN SURFACES-INVESTIGATION OF STRIP LOCATION EFFECT

Ya-Ling He, Wen-Quan Tao, Z.G. Qu

Reference: [Compact Heat Exchangers and Enhancement Technology for the Process Industries - 2003 - Vol. 0 '2003](#)

EXPERIMENTAL STUDY ON PRESSURE DROP THROUGH A WOVEN SCREEN SUBJECTED TO AN OSCILLATING FLOW

Ya-Ling He, Wen-Quan Tao

Reference: [Compact Heat Exchangers and Enhancement Technology for the Process Industries - 2003 - Vol. 0 '2003](#)

PRINCIPLE OF FIELD COORDINATED ENHANCEMENT OF SINGLE PHASE THERMAL CONVECTION

Zhi-Xin Li, Ya-Ling He, Wen-Quan Tao, Zeng-Yuan Guo

Reference: [Compact Heat Exchangers and Enhancement Technology for the Process Industries - 2003 - Vol. 0 '2003](#)

MOLECULAR DYNAMICS SIMULATION OF METHANE ADSORPTION IN SHALE MATRIX

Ya-Ling He, Zhong-zhen Li, Li Chen, Wen-Quan Tao

Reference: [First Thermal and Fluids Engineering Summer Conference - Vol. 14 '2015](#)

A GENERALIZED MODEL FOR FLOW THROUGH TIGHT POROUS MEDIA WITH KLINKENBERG'S EFFECT

Ya-Ling He, Q. Kang, Li Chen, Wen-Quan Tao, H.S. Viswanathan

Reference: [First Thermal and Fluids Engineering Summer Conference - Vol. 19 '2015](#)

DS Directory

Thermodynamics and Thermophysical Properties

- Properties of pure substances
- Properties of mixtures
- Nucleation phenomena
- Equilibrium thermodynamics
- Equations of state
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- Fugacity
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- Metastability
- Metamaterials
- Measurement

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- Thermal comfort
- Thermal therapies
- Thermal protection of animals in nature
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- Cooling and preservation
- Bio-hydrodynamics
- Blood flow studies

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- MEMS
- Heat transfer physics (electrons, phonons etc.)
- NEMS
- Fluid flow and heat transfer in micro and nanochannels

Safety Aspects in Engineering and Thermal Sciences

Extreme Temperature Phenomena and Cryogenics Sciences

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Select All **Unselect All**

Ok

Last Name	First Name	Specialisation Area	Country
Abadie	Marc O.	Green buildings, Thermal pollution	BRAZIL
Abrantes	Juliana Kuhlmann	Heat exchangers	BRAZIL
Alemany	Nasser	Flow patterns, Multiphase flow modelling, Multiphase flows, Particle technology	BRAZIL
Albuquerque	Margell	CO ₂ sequestration, Experimental techniques, Global warming, Turbulence models	BRAZIL



EXECUTIVE EDITOR: Satish Kandlikar

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HEAT EXCHANGER DESIGN HANDBOOK

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The Heat Exchanger Design Handbook (HEDH) was first launched in 1983. Since then, it has been continuously updated and now, after two decades and in more than double its original size, remains the **standard reference** source for design and other information on heat transfer, heat exchangers, and associated technologies. Currently, HEDH contains more than 6,000 pages of technical information **compiled and edited by the world's foremost specialists** and is presented in **five parts** dealing respectively with:

- Heat Exchanger Theory
- Fluid Mechanics and Heat Transfer
- Thermal and Hydraulic Design of Heat Exchangers
- Mechanical Design of Heat Exchangers
- Physical Properties



TECHNICAL DESCRIPTION



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HOUSE

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于1983年面世，经过20多年持续不断的更新发展，依然是换热器设计和相关技术的首选参考工具书。内容超过6000页，每季度都会进行同行评审并更新内容。全书共分为5个部分，依次是：

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- 流体机械和传热研究
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 - 1.1.6. Unsteady operation
 - 1.2. Definitions and quantitative relationships For heat exchangers
 - 1.2.1. Thermodynamics: Brief notes on important concepts
 - 1.2.2. Flux relationships
 - 1.2.3. Transfer coefficient dependencies
 - 1.2.4. Balance equations applied to complete equipment
 - 1.2.5. The differential equations governing streams

1.2 DEFINITIONS AND QUANTITATIVE RELATIONSHIPS

1.2.1-1

1.2.1**Thermodynamics: Brief notes on important concepts**

D. Brian Spalding

A. Temperature

For present purposes, temperature is that property of matter, differences of which are cause of heat transfer. It is an intensive property. Its symbol in this book is T , and it is measured in kelvins (K) or degrees Celsius (°C).

B. Specific internal energy

The specific internal energy u of a material is the extensive property which changes as a consequence of heat and work transfers in accordance with the linear relationship

Pressure is here understood as the force that the material exerts on its surroundings, normal to its surface, per unit area of that surface; its units are newtons per square meter (N/m²). Density is the mass of the material per unit volume; its units are kilograms per cubic meter (kg/m³).

Specific enthalpy is of particular importance in heat exchanger practice because it enters the steady-flow energy equation

$$\dot{M} \Delta \left(h + \frac{v^2}{2} + g_n z \right) = \dot{Q} - \dot{W}_s \quad (3)$$

where \dot{M} stands for the mass rate of flow (kg/s), Δ again stands for "increase of" ($h + v^2/2 + g_n z$) is the sum of

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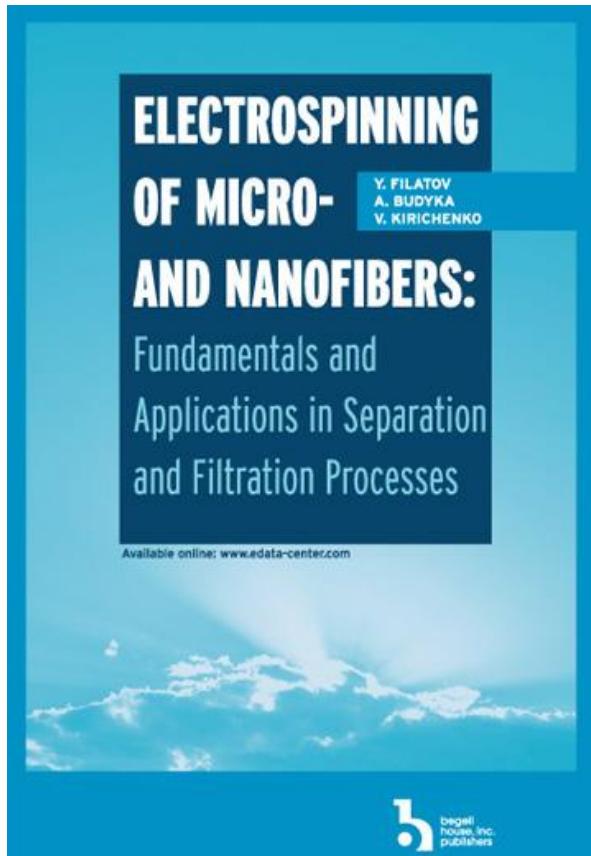
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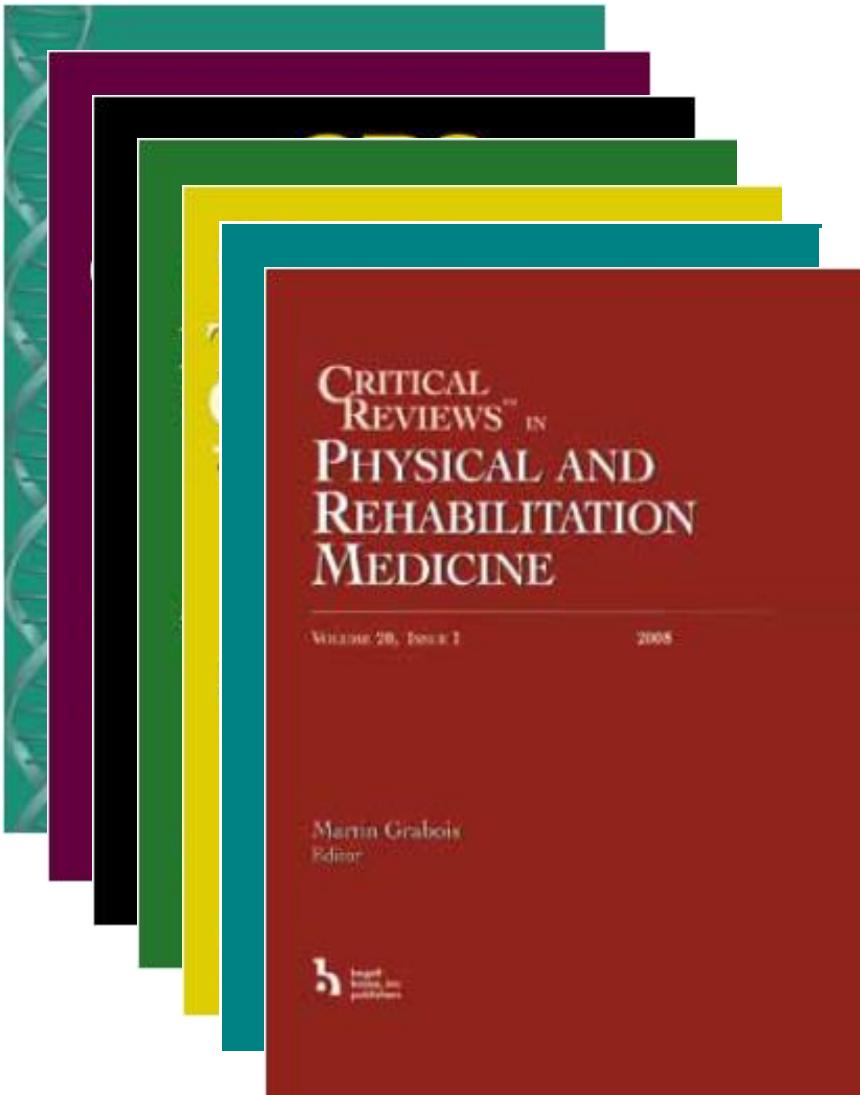
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Nanoscale Drug Delivery Systems for Enhanced Drug Penetration into Solid Tumors: Current Progress and Opportunities

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ABSTRACT: Poor penetration of anticancer drugs into solid tumors significantly limits their efficacy. This phenomenon has long been observed for small-molecule chemotherapeutics, and it can be even more pronounced for nanoscale therapies. Nanoparticles have enormous potential for the treatment of cancer due to their wide applicability as drug delivery and imaging vehicles and their size-dependent accumulation into solid tumors by the enhanced permeability and retention (EPR) effect. Further, synthetic nanoparticles can be engineered to overcome barriers to drug delivery. Despite their promise for the treatment of cancer, relatively little work has been done to study and improve their ability to diffuse into solid tumors following passive accumulation in the tumor vasculature. In this review, we present the challenges in nanoscale drug delivery and the strategies for improving nanoparticle penetration into solid tumors. The current methods available to researchers to study nanoparticle penetration into malignant tumors are described, and the most recent works studying the penetration of nanoscale materials into solid tumors are summarized. We conclude with an overview of the important nanoparticle design parameters governing their tumor penetration, as well as by highlighting critical directions in this field.

KEY WORDS: Tumor penetration, solid tumor, nanoparticles, cancer, liposomes, polymeric nanocarriers, drug delivery

I. INTRODUCTION

Limited penetration and poor spatial distribution of drugs throughout solid tumors represent significant barriers to their anticancer efficacy. Several conventional small-molecule chemotherapeutics, including doxorubicin,^{1,2} paclitaxel,^{3,4} and other clinically relevant compounds,⁵ are known to exhibit poor distribution throughout solid tumors. These drugs remain localized to regions immediately surrounding blood vessels, leaving large regions of the tumor untouched by the therapy. These poor tumor distribution may significantly impair their efficacy, contributing to disease recurrence and the administration of high drug doses that cause adverse effects in cancer patients. Improving the distribution of drugs in solid tumors is thought to improve their therapeutic index for the treatment of human disease.^{6,7}

With the increasing application of nanoscale materials for cancer drug delivery and imaging purposes, the importance of tumor penetration by drugs becomes more pronounced. As nanoscale materials are orders of magnitude larger than conventional chemotherapeutic compounds, their transport and diffusion through tumor tissue is even more limited. On the other hand, nanomedicines can be engineered with functionalities to mediate more effective transport within tumors. Whereas significant progress has been made to understand and improve the tumor transport of small-molecule and antibody therapeutics,^{8,9} much less work has been done to understand similar phenomena for nanoscale materials.^{10,11}

This review focuses on the current state of nanoscale drug delivery systems for enhanced drug distribution throughout solid tumor. The properties of solid tumors that hinder homogeneous drug delivery

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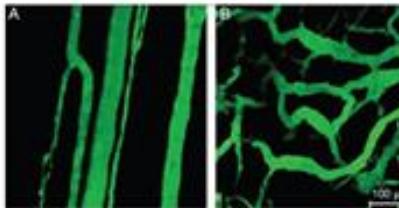


FIGURE 1: Micrographs of normal (A) and tumor (B) vasculature acquired from nude mice bearing tumors from human squamous cell carcinoma cells. This figure was reproduced from: Dreher MR et al.¹² with permission from Oxford University Press.

are discussed first. Then the available experimental and theoretical methods to study drug distribution in solid tumors are reviewed, with an emphasis on applications to nanoscale drug delivery systems.

Finally, the current literature describing methods employed by researchers to understand and overcome the poor tumor transport of nanoscale materials including liposomes, inorganic nanoparticles, and synthetic polymeric systems is reviewed, highlighting the design parameters that are important for each unique type of delivery system. In this review, we define tumor penetration as the transport process that occurs after a nanoparticle drug has left the tumor vasculature (by extravasation) and has entered the adjacent tumor tissue. We discuss methods to study and improve nanoparticle transport through the tumor tissue (both extracellular matrix and tumor cells) after the drug has reached the surface of the tumor.

II. TUMOR PROPERTIES HINDERING NANOSCALE DRUG TRANSPORT

Compared with healthy tissues, solid tumors have unique structural properties that restrict transport and distribution of drug compounds throughout malignant tissue. Several reviews have thoroughly discussed the architectural features of solid tumors

that hinder drug transport;¹² thus, only a brief overview of these features is discussed here.

A. Abnormal Vasculature

One critical feature of tumors that enables them to have an abnormal survival advantage is their ability to sustain angiogenesis, or to acquire their own blood supply.¹³ For cells to survive, they should be within 100 μm of a blood vessel, allowing transport of oxygen and critical nutrients by molecular diffusion. In the development of healthy tissue, the formation of blood vessels is carefully regulated to ensure that there is a ample blood supply for all cells. Malignant tumors, however, are formed abnormally in the midst of healthy tissue, and therefore they must acquire their own blood supply via angiogenesis to progress to a large size.¹⁴ As the acquisition of a blood supply in abnormal in tumor tissue, the structure of the tumor vasculature is poorly organized compared with healthy tissues (Figure 1). The blood vessels in solid tumors are more heterogeneous in distribution, size, and are more permeable than in healthy tissue.¹⁵ A consequence of heterogeneous vascularization is that some regions of the tissue are less accessible than others to oxygen, nutrients, and therapeutic compounds. One of the theories behind the use of

VII. CONCLUSIONS

The use of nanomaterials for drug delivery and imaging of solid tumors holds significant promise for the treatment of human disease. However, poor penetration of nanoscale therapeutics into solid tumors hinders their cancerous efficacy. The work reviewed here demonstrates that particle design parameters are critical to achieve favorable tumor penetration and distribution. While some parameters, including particle surface charge and the presence of targeting ligands, have yielded mixed results, the effect of particle size is indisputable. Particles larger than 100 nm universally do not distribute well throughout tumor tissue, regardless of other characteristics. However, simply using small nanoparticles is not sufficient to ensure favorable tumor distribution. Small nanoparticles do not accumulate in the tumor vasculature by the EPR effect, and they do not necessarily achieve good tumor penetration depending on their other physical properties. Thus, it is necessary to simultaneously optimize many particle design parameters (e.g., size, charge, and targeting groups) to ensure tumor tissue distribution. The benefit of employing physical stimuli such as magnetic fields, ultrasound, or convection-enhanced delivery have also been demonstrated here, and the importance of modulating the tumor microenvironment by vascular normalization or by ECM degradation has been highlighted. Future anticancer therapeutics will likely incorporate optimized particle chemistries with a physical stimulus to guide particle location in tumors. This multi-pronged design approach should yield improved anticancer therapies that may lower the necessary drug dose to patients, and it may produce novel techniques to improve the imaging of tumors *in vivo*. Designing nanoscale therapeutics to improve tumor penetration may represent an important avenue to improve their *in vivo* efficacy.

ACKNOWLEDGEMENTS

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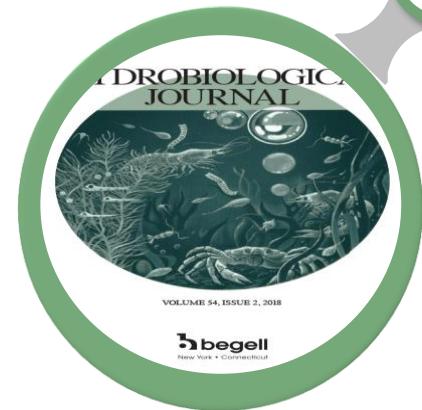
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1



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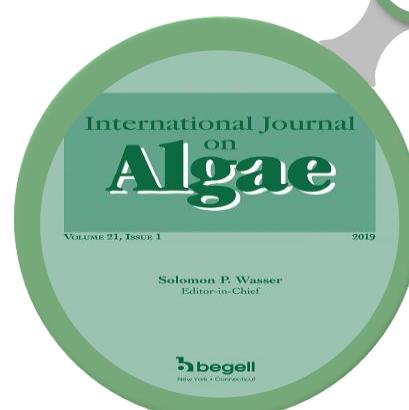
2



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3



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4



等离子体医学

相对于电离辐射、激光、超声波、核磁共振技术，等离子体技术1998年才应用于医药领域。目前已经广泛应用于微创外科和内窥镜手术领域。本期刊是目前唯一一本等离子体医学期刊。

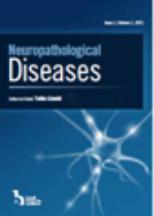
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国际生理学和病理学期刊

期刊侧重出版生理学、病理学和实验医学领域的论文，同时还包括业内专家针对当前热点撰写的评论文章、快报、医学假说和会议报告，以及部分来自乌克兰研究人员撰写的优秀论文英文版

临床医学类期刊系列

期刊名称	内容简介	
	<p>《生物医学和工程研究规范条例》 Ethics in Biology, Engineering and Medicine</p>	<p>医学伦理学协会的官方出版物。刊载基础和临床研究工作中涉及的伦理问题和政策的评论，特别是当前社会环境下重大生物医学发现和新的生物医学技术。</p>
	<p>《环境病理学、毒理学和肿瘤学期刊》 Journal of Environmental Pathology, Toxicology and Oncology</p>	<p>期刊收录影响人类和动物致癌的条件和因素方面研究论文和评论，服务于生物学各个领域的科学家，如药理学家，化学家，免疫学家，药理学家，肿瘤学家，肺炎学家和行业技术专家等。</p>
	<p>《器官移植长期效应期刊》 Journal of Long-Term Effects of Medical Implants</p>	<p>期刊旨在更好地了解在合适的动物和人类身上进行临床前期器官移植的失败机制，以及建立临床前和临床研究之间的有效联系。特别欢迎是对移植数据的分析综述，对侵入性和非侵入性操作的数据讨论，以及计算机模拟器官移植的论文。</p>
	<p>《神经病理学疾病》 Neuropathological Diseases</p>	<p>期刊出版了一些相关会议和研讨会的主题报告和专家发言。文章作者是由该领域专家和临床研究人员选定，稿件经过特邀编辑严格评审。期刊每一期都围绕一个主题展开，每3个月有一期特刊。期刊主要目的是促进各种观点和讨论议题的进一步融合。</p>
	<p>《免疫病理学疾病和治疗论文集》 Forum on Immunopathological Diseases and Therapeutics</p>	<p>期刊作为研讨会后的出版物，旨在挖掘对于疾病的发病机理、发展和表现有着决定性因素的基因产物。 该研讨会涉及的主题，包括生物化学，免疫学，分子生物学，遗传学，分子和细胞机制的疾病，临床研究和新的创新疗法。</p>

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