《整合医学战略研究（2035）》参考

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中国工程科技知识中心医药卫生专业分中心
中国医学科学院医学信息研究所 2019 年 11 月 20 日

[动态信息]

1. **Hospitals to Test Music-Based mHealth Platform for Stroke Treatment**

【**mhealthintelligence**】Five rehabilitation hospitals will be testing a telehealth platform for stroke treatment that integrates music with AI and mHealth sensors for guided therapy.

链接： https://mhealthintelligence.com/news/hospitals-to-test-music-based-mhealth-platform-for-stroke-treatment

2. **Georgia Health System Finalizes Epic Systems EHR Implementation**

【**ehrintelligence**】After a successful 14-month implementation, Tanner Health System in Georgia launched its new Epic Systems EHR

链接：

https://ehrintelligence.com/news/georgia-health-system-finalizes-epic-systems-ehr-implementation

3. **An mHealth Wearable Gives Doctors a View of PTSD While it Happens**

【**mhealthintelligence**】Researchers are using an mHealth wearable to get a better idea of how veterans react to post-traumatic stress disorder – while they're experiencing it.

链接： https://mhealthintelligence.com/news/an-mhealth-wearable-gives-doctors-a-view-of-ptsd-while-it-happens

4. **Woman with severe spinal cord injury recovers after treatment at Danbury**

Hospital

【**news-medical**】A freak accident left Katherine (Kathy) Wenning unable to move her upper body. She knew she needed medical attention, but she was at her country getaway in Washington, Connecticut -; two hours by car from her home in Manhattan and the New York medical system she trusted. Kathy put her faith in a neurosurgeon and care team at Danbury Hospital to treat her severe spinal cord injury.

链接：https://www.news-medical.net/news/20191114/Woman-with-severe-spinal-cord-injury-recovers-after-treatment-at-Danbury-Hospital.aspx

5. **New RO1 grant awarded to improve imaging techniques for detecting breast cancer**

【 **news-medical** 】Mammography is the current state-of-the-art method for detecting and diagnosing breast cancer. However, even a mammogram doesn't detect certain subtle breast cancers, especially those in younger women who typically have denser breast tissue. In the growing need to improve imaging techniques, the United States Department of Health and Human Services has awarded an RO1 grant titled "Advanced image reconstruction for accurate and high-resolution breast ultrasound tomography" to teams at the University of Illinois at Urbana-Champaign and Wayne State University.

链接：

https://www.news-medical.net/news/20191111/New-RO1-grant-awarded-to-improve-imaging-techniques-for-detecting-breast-cancer.aspx

6. 蒋忠民：开拓整合医学新疆域 构建慢病防控辉煌蓝图

【搜狐网】整合医学概念 (整合医学,全称整体整合医学(holistic integrative medicine,HIM),是指从人的整体出发,将医学各领域最先进的理论知识和临床各专科最有效的实践经验分别加以有机整合,并根据社会、环境、心理的现实进行修正、调整,使之成为更加符合、更加适合人体健康和疾病诊疗的新的医学体系。整合医学是一种不仅看"病",更要看"病人"的方法论。其理论基础是从整体观、整合观和医学观出发,将人视为一个整体,并将人放在更大的整体中(包括自然、社会、心理等)考察,将医学研究发现的数据和证据还原成事实,将临床实践中获得的知识和共识转化成经验,将临床探索中发现的技术和艺术聚合成医术,在事实、经验和医术层面来回实践,从而形成整体整合医学。

链接： http://www.sohu.com/a/209770875_111853

7. **2019 中国生物医学工程大会暨创新医疗峰会在济南召开**

【光明网】由中国生物医学工程学会主办的"2019 年中国生物医院工程大会暨创新医疗峰会"于 2019 年 11 月 14-16 日在山东济南召开。据了解，本次大会由山东第一医科大学（山东省医学科学院）承办，山东省科学技术厅支持，济南市卫生健康委员会协办，本次论坛主持人由中国生物医学工程学会秘书长、中国医学科学院医学信息研究所所长池慧担任。

链接： http://life.gmw.cn/2019-11/16/content_33324472.htm

8. **专家学者金城共谋西部康复医学发展**

【每日甘肃】今天上午，第二届中国康复医学会"一带一路"西部康复医学论坛暨甘肃省康复医学会、甘肃省残疾人康复学会年会在兰州开幕。来自国内外知名专家学者围绕西部康复医学发展展开深入交流研讨。

链接： http://baijiahao.baidu.com/s?id=1649046062507542065&wfr=spider&for=pc

9. **首都医科大学附属北京康复医院院长席家宁：医学的下一个阶段是无创、无痛的康复医学阶段**

【中国经营网】"在政策要求、社会发展、百姓需求和医学发展等一系列作用下，康复医学的潮流已经来临。没有任何力量可以阻挡康复医学的发展。"10 月 29 日，在由中国经营报社主办的"2019 中国大健康产业高峰论坛"上，首都医科大学附属北京康复医院院长席家宁指出。

链接： http://www.cb.com.cn/index/show/zj/cv/cv13463681268

10. **强大的人造肌肉，或将为未来的软机器人，可穿戴设备提供动力！**

【博科园】人造肌肉或将为未来的软机器人和可穿戴设备提供动力。但为了设计和制造新设备，需要更多地了解这些强大结构的基本机制。现在，哈佛大学约翰·A·保尔森工程与应用科学学院(SEAS)的科学家们，发现了人造肌肉纤维的一些基本物理特性。Lola England de Valpine 应用数学、组织和进化生物学以及物理学教授 L.Mahadevan 说：可以很容易地拉伸、弯曲、扭曲或剪切的细丝能够产生极大的变形，产生结状、辫状或环状结构，这些结构可以很容易地

存储或释放能量。

链接：http://baijiahao.baidu.com/s?id=1650376689053812822&wfr=spider&for=pc

[文献速递]

1. **Clinical translation of the assets of biomedical engineering - a retrospective analysis with looks to the future**

作者：Ren, Y

文献来源：*Expert Rev Med Devices*

摘 要： Introduction: Biomedical-engineering (BME) plays a major role in modern medicine. Many BME-based assets have been brought to clinical translation in the twentieth century, but translation currently stagnates. Here, we compare the impact of past and present scientific, economic and societal climates on the translation of BME-based assets, in order to provide the BME-community with incentives to address current stagnation.Areas covered: In the twentieth century, W.J. Kolff brought kidney dialysis, the total artificial heart, artificial vision and limbs to clinical application. This success raises the question whether Kolff and other past giants of clinical translation had special mind-sets, or whether their problem selection, their training, or governmental and regulatory control played roles. Retrospective analysis divides the impact of BME-based assets to clinical application into three periods: 1900-1970: rapid translation from bench-to-bedside, 1970-1990: new diseases and increased governmental control, and the current translational crisis from 1990 onward.Expert opinion: Academic and societal changes can be discerned that are concurrent with BME's translational success: mono-disciplinary versus multi-disciplinary training, academic reward systems based on individual achievements versus team achievements with strong leadership, increased governmental and regulatory control, and industrial involvement. From this, recommendations can be derived for accelerating clinical translation of BME-assets.

链接： http://pan.ckcest.cn/rcservice//doc?doc_id=48606

2. **Health Technology Assessment and Biomedical Engineering: Global trends, gaps and opportunities**

作者：Pecchia, L.

文献来源：*MED ENG PHYS*

摘要：The diffusion of medical devices is expanding at an astonishing rate. The increasing number of novel patents per year suggests this growth will continue. In contrast to drugs, medical devices are intrinsically dependent on the environment in which they are used and how they are maintained. This created an unprecedented global need for well-trained biomedical engineers who can help healthcare systems to assess them. The International Federation for Medical and Biological Engineering (IFMBE) is the global scientific society of biomedical engineers in official relations with the United Nations World Health Organisation (WHO) and has been very active in promoting the role of the biomedical engineer in Health Technology Assessment (HTA). The IFMBE Health Technology Assessment Division (HTAD) is the IFMBE operative branch in this field, promoting studies, projects and activities to foster the growth of this specific and very important science sector, including summer schools, training material, an HTA eLearning platform, HTA guidelines, awards and more. This article describes the vision, the mission and the strategy of the HTAD, with a focus on the results achieved and the impact this is having on global policymaking.

链接：   http://pan.ckcest.cn/rcservice//doc?doc_id=48607

3. **Bacterial microcompartments: catalysis-enhancing metabolic modules for next generation metabolic and biomedical engineering**

作者：Kirst, H.

文献来源：*BMC BIOL*

摘要：Bacterial cells have long been thought to be simple cells with little spatial organization, but recent research has shown that they exhibit a remarkable degree of subcellular differentiation. Indeed, bacteria even have organelles such as magnetosomes for sensing magnetic fields or gas vesicles controlling cell buoyancy. A functionally diverse group of bacterial organelles are the bacterial microcompartments (BMCs) that fulfill specialized metabolic needs. Modification and reengineering of these BMCs enable innovative approaches for metabolic engineering and nanomedicine.

链接：http://pan.ckcest.cn/rcservice//doc?doc_id=48614

4. **Physical activity is reduced prior to ventricular arrhythmias in patients with a wearable cardioverter defibrillator**

作者： Burch, A. E.

文献来源：*CLIN CARDIOL*

摘要：INTRODUCTION: The utility of accelerometer-based activity data to identify patients at risk of sustained ventricular tachycardia (VT) or ventricular fibrillation (VF) has not previously been investigated. The aim of the current study was to determine whether physical activity is associated with manifesting spontaneous sustained VT/VF requiring emergent defibrillation in patients with an ejection fraction of </=35%. METHODS: Patients consecutively prescribed a wearable cardioverter defibrillator (WCD) from April 2015 to May 2018 were included. Shock data and 4 weeks of physical activity data, beginning with the first week of WCD wear, were analyzed. RESULTS: Based on the ROC curve outcome generated from 4057 patients, average daily step count during the first week accurately predicted those patients with sustained VT/VF compared to those without (shocked (n = 81) vs nonshocked (n = 3976) area under the curve, c-index = 0.71, 95% CI = 0.65-0.77, P < .001). An average cutoff of 3637 daily steps during week 1 separated the groups. Patients who averaged fewer than 3637 steps per day during the first week of WCD use were 4.3 times more likely to experience a shock than those who walked more than 3637 steps per day (OR = 4.29, 95% CI = 2.58-7.15, P < .001). DISCUSSION: Average daily step counts are lower in WCD patients who manifest spontaneous VT/VF. Whether these findings represent a causal or correlational relationship, future studies to encourage a minimum daily step count in high-risk patients may impact the incidence of sustained VT/VF.

链接：http://pan.ckcest.cn/rcservice//doc?doc_id=48608

5. **Assessment of Response to Neoadjuvant Chemoradiotherapy by 18F-FDG PET/CT in Patients With Locally Advanced Esophagogastric Junction Adenocarcinoma**

作者：Sanchez-Izquierdo, N.

文献来源：*CLIN NUCL MED*

摘要：PURPOSE: The outcome of locally advanced adenocarcinoma of the esophagogastric junction (AEG) treated with preoperative chemoradiotherapy is heterogeneous, and favorable response to this treatment is a key factor in the patient's prognosis. The aim of this study was to evaluate F-FDG PET/CT in assessing metabolic response in patients with AEG. MATERIALS AND METHODS: This prospective study evaluated all consecutive patients with potentially operable locally advanced AEG who were candidates for neoadjuvant chemoradiotherapy. PET/CT and contrast-enhanced thoracoabdominal CT were performed at baseline and 2 weeks after completion of chemoradiotherapy for response evaluation. The response rate was assessed using Response Evaluation Criteria in Solid Tumors criteria for contrast-enhanced thoracoabdominal CT and Positron Emission Tomography Response Criteria in Solid Tumors criteria for PET/CT. The regression rate was assessed using a 5-grade histopathology scoring system of the surgically resected tumor. Metastatic lesions were confirmed by histopathology examination or imaging and clinical follow-up at 6 months. RESULTS: A total of 40 cases were finally included in the study. Distant metastases were found in the baseline PET/CT in 6 of 40 cases (retroperitoneal [2] or mediastinal/hiliar [1] lymph nodes and liver [2] or bone [1] metastases) and were therefore excluded from surgery. Pathologic response correlated with the LambdaSUVmax threshold of $\leq$45% (P = 0.033). CT response correlated well with both the baseline SUVmax (P = 0.039) and the LambdaSUVmax (P = 0.001). Five-year survival curves for AEG correlated with the LambdaSUVmax using a threshold of $\leq$45% for both progression-free and overall survival. CONCLUSIONS: F-FDG PET/CT is useful for diagnosing nonsuspected metastasis before neoadjuvancy in potentially operable AEG. The LambdaSUV correlates with pathologic response and is a long-term independent prognostic factor of survival.

链接：http://pan.ckcest.cn/rcservice//doc?doc_id=48609

6. **核磁共振在膝关节损伤诊断中的应用效果及准确率评价**

作者：权建渊

文献来源：*中国保健营养*

摘要：目的:在膝关节损伤诊断中应用核磁共振,对核磁共振的应用效果及准

确率进行评价.方法:选择研究对象为 100 例膝关节损伤患者(2017 年 3 月～2018 年 3 月),按照随机方式分 2 组:对照组、研究组,对应实施方式:常规诊断、核磁共振诊断.对组间的诊断准确率进行比较,同时分析核磁共振诊断的检出结果.结果:研究组在诊断准确率方面指标高于对照组,P<0.05,差异显著;核磁共振诊断能够清晰准确的观察患者病灶.结论:核磁共振在膝关节损伤诊断中的应用效果显著,可以提高临床诊断准确率.

链接：http://pan.ckcest.cn/rcservice//doc?doc_id=48611

7. 动态足底压力测量系统研究

作者：闻刚

文献来源：*河南科技大学学报（自然科学版）*

摘要：为了克服传统足底矫形辅具以静态足底压力数据为参考的局限,研发了一套可穿戴式动态足底压力测量系统.柔性压阻式压力传感器用于鞋垫设计,采用 STM32F103RCT6 微处理器作为主控芯片,结合压力信号调理电路模块、模数转换模块及数据处理模块完成下位机设计.通过 HC-05 蓝牙模块将数据传输到电脑端上位机,完成数据的显示、保存及处理,并对步态周期内足底压力分布特点进行动态分析.试验结果表明:系统的测量标准差不超过0.190 N,不同体质量的志愿者静态足底压力分布基本相同,动态足底压力分布随运动速度的增加而增大.

链接：http://pan.ckcest.cn/rcservice//doc?doc_id=48610

8. 可拉伸超级电容器碳基复合电极材料的研究进展

作者：岳瑞瑞

文献来源：*材料导报*

摘要：随着便携式和可穿戴电子产品的发展,人们对柔性储能设备的需求越来越迫切.常用的储能设备有锂离子电池、超级电容器等.与锂离子电池相比,超级电容器具有更快的充放电速度、更高的循环稳定性能和更大的比电容等优点.但传统的超级电容器在受到拉伸、压缩等外力作用时,存储功能难免下降甚至丧失.因此,可拉伸超级电容器引起了研究者们的关注.电极是可拉伸超级电容器的重要组成部分,人们通过制备性能优异的电极材料或设计能够

抗压缩、拉伸、扭曲等高强度机械力的电极结构来提高电极的电化学性能和力学性能.碳纳米管、石墨烯、碳纤维和碳气凝胶等碳材料属于双电层电容器电极材料,它们虽然比表面积大、循环稳定性强,但仍存在低比电容、低能量密度等缺点.其中,石墨烯更是面临因堆叠团聚而导致的储能性能降低的问题.于是,人们在将碳材料与其他电极材料结合制备碳基可拉伸复合电极材料方面做了许多尝试.高比电容的赝电容电极材料、大比表面积的过渡金属硫化物或高导电性的金属纳米线,都已被发现能够与某些碳材料产生协同互补,形成的碳基复合电极在比电容、循环稳定性和力学性能方面相比单种碳电极材料有明显提高.本文在对比介绍用作可拉伸超级电容器的各种碳材料的优势与不足的基础上,综述了近年来广泛应用于可拉伸超级电容器的碳基复合电极材料的研究进展.

链接：http://pan.ckcest.cn/rcservice//doc?doc_id=48615

9. 医学整合的若干探索与思考

作者：田松

文献来源：*医学与哲学*

摘要：医学整合立足于整体论的世界观及人本主义的哲学思想,逐渐成为未来医学发展的主要方向.这一整合思想不仅渗透到临床实践、生命科学基础研究领域,更成为医学教育和人才培养的主要目的,作为一种新型宏观医学模式,已经展现了光明的前景,从整合医学服务模式、整合医学研究模式、整合医学教育模式和整合医学人才培养模式四方面简要介绍近年来医学领域的整合现状、前景以及优越性,为医学整合的必然趋势提供理论依据.

链接：http://pan.ckcest.cn/rcservice//doc?doc_id=48612

10. 运用整合医学构建八年制风湿免疫疾病模块教学

作者：万伟

文献来源：*现代医药卫生*

摘要：目的 探讨八年制风湿病模块教学在培养医学高素质高层次精英人才中的效果.方法 选取该院风湿科轮转的八年制学员作为研究对象,研究组运用模块教学,对照组运用传统教学法,对2组进行对照研究.重点选取风湿科常

见病作为教学内容授课,课程结束后 2 组采用相同的方式进行考核,理论知识与病例分析采用笔试形式完成,临床操作为现场考试评分.结果 研究组风湿科专科基础知识获得的分数高于对照组,病例分析题考分也显著高于对照组,差异均有统计学意义($P<0.05$).2 组在临床技能方面得分比较,差异无统计学意义($P>0.05$).结论 运用疾病模块教学法可以更好地让八年制学生深入学习风湿病相关知识,对培养临床诊疗思维有指导意义,对今后其他学科临床教学具有借鉴意义.

链接：http://pan.ckcest.cn/rcservice//doc?doc_id=48613

[研究报告]

1. **2019 互联网+全科医学与健康管理白皮书（征求意见稿）**

发布源：亿欧智库

发布时间：2019 年

摘要：随着生活水平和国民素质的提高，人们对自身健康的关注和管理日益显著。城镇化、老龄化、疾病谱变化、生态环境及生活方式变化等，也使得健康服务需求愈加旺盛，大健康产业未来可期。本报告通过分析互联网+全科医学与健康管理的历史发展和创新应用，发现这一领域的机遇与挑战。

链接：https://www.iyiou.com/intelligence/report642.html