

# 長庚大學醫學院 物理治療學系暨復健科學研究所

## 王鐘賢教授 個人資料表

### 一、基本資料

中文姓名	王 鐘 賢	英文姓名	Wang Jong Shyan (Last Name) (First Name) (Middle Name)
國籍	中華民國	性別	<input checked="" type="checkbox"/> 男 <input type="checkbox"/> 女
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### 二、主要學歷

畢／肄業學校	國別	主修學門系所	學位	起訖年月
國立成功大學醫學院	中華民	基礎醫學所博士班	博士	1991 / 09 至 1996 / 06
私立中山醫學院	中華民	復健醫學系	學士	1988 / 06 至 1991 / 06
				19 / 至 19 /
				19 / 至 19 /

三、現職及與專長相關之經歷 指與研究相關之專任職務，請依任職之時間先後順序由最近者往前追溯。

服務機關	服務部門／系所	職稱	起訖年月
長庚大學	物理治療學系	教授	2017.08 ~
經歷：			
長庚大學	物理治療學系	副教授	2001/08 至 2003/08
長庚大學	物理治療學系	助理教授	1997/08 至 2000/07
長庚大學	物理治療學系	教授兼任主任暨所長	2003/08 至 2017/07
			19 / 至 20 /

四、專長 請自行填寫與研究方向有關之專長學門。

1. 運動生理	2. 心肺物理治療	3. 復健科學	4. 血栓/發炎免疫
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## 五、研究成果目錄：(一)

1. 請詳列個人申請截止日前五年內(此段期間曾生產或請育嬰假者，得延長至七年內，曾服國民義務役者，得依實際服役時間予以延長，但應檢附相關證明文件)
2. 請將所有學術性著作分成四大類：(A)期刊論文(B)研討會論文(C)專書及專書論文(D)技術報告及其他等，並請依各類著作之重要性自行排列先後順序。
3. 各類著作請按發表時間先後順序填寫。每篇文章請依作者姓名（按原出版之次序，**通訊作者請加註\***）、出版年、月份、題目、期刊名稱（專書出版社）、起訖頁數之順序填寫，被接受刊登尚未正式出版者請附被接受函。
4. 若期刊是屬國內或國際期刊資料庫(如 SCI、EI、SSCI...等)所收錄者，請於該著作書目後註明資料庫名稱；若著作係經由長庚補助之研究計畫所產生，請於最後填入計畫編號。

### A. 期刊論文

1. **Wang JS**, Jen CJ, Kung HC, Lin LJ, Hsiue TR, Chen HI. Different effects of strenuous exercise and moderate exercise on platelet function in men. *Circulation*. 1994;90:2877-85. **[SCI]**
2. **Wang JS**, Jen CJ, Chen HI. Effects of exercise training and deconditioning on platelet function in men. *Arteriosclero Thromb Vasc Biol*. 1995;15:1668-74. **[SCI]**
3. Jen CJ, Li HM, **Wang JS**, Chen HI. Usami S. Flow-induced detachment of adherent platelets from fibrinogen-coated surface. *Am J Physiol*. 1996;270(1 Pt 2):H160-6. **[SCI]**
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5. **Wang JS**, Jen CJ, Chen HI. Effects of chronic exercise and deconditioning on platelet function in women. *J Appl Physiol*. 1997;83:2080-5. **[SCI]**
6. Shen AY, Huang MH, Teng C-M, **Wang JS\***. Inhibition of 2-P-mercaptophenyl- 1,4-naphthoquinone on human platelet function. *Life Sci*. 1999; 65:45-53. **[SCI]**
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11. Chow S-E, **Wang JS**, Li K-C, Shik SH. Oxidized LDL exposure induces

morphological change independent of Rac and Ras expression but may involve intracellular  $\text{Ca}^{2+}$  in vascular endothelial cells. *Biol Bull NTNU*. 1999;34(1):15-24.

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15. Wang JS\*. Exercise dosage and thrombotic modification: Benefits and risks associated with exercise in cardiovascular disease. *Formos J Physic Ther*. 2000;25:269-277.
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17. Wang JS\*. Exercise and Platelet. *Life Science News Letter*. 2001;15:1-6.
18. Wang JS\*. Circulation and Tai Chi Training. *Clinical Pearls*. 2002; 156.
19. Wang JS\*, Yang CF, Liaw MY, Wong MK. Suppressed cutaneous endothelial vascular control and hemodynamic changes in paretic extremities with edema in the extremities of patients with hemiplegia. *Arch Phys Med Rehabil*. 2002; 83:1017-1023. [SCI]
20. Wang JS\*, Yang CF, Wong M-K. Effect of strenuous, arm exercise on platelet function in patients with spinal cord injury. *Arch Phys Med Rehabil*. 2002; 83:210-216. [SCI]
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22. Wang JS\*, Chow SE, PhD, Chen J-K. Strenuous , acute exercise affects reciprocal modulation of platelet and polymorphonuclear leukocyte activities under shear flow in men *J ThrombHaemost*.2003;1: 2031-7. [SCI]
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25. Wang JS\*, Chen SY, Lan C, Wong MK, Lai JS. Neuromuscular electrical stimulation enhances endothelial vascular control and hemodynamic function in paretic upper extremities of patients with stroke. *Arch Phys Med Rehabil*. 2004; 85:1112-6. [SCI]
26. Wang JS\*, Shu-Er Chow. Effects of exercise training and detraining on oxidized LDL-mediated platelet function in men. *Arch Phys Med*

*Rehabil.* 2004; 85: 1531-7. **[SCI]**

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57. Chen YW, Chen JK, **Wang JS\***. Strenuous exercise promotes shear-induced thrombin generation by increasing the shedding of procoagulant microparticles from platelets. *Thromb Haemost.* 2010;104(2):293-301. **[SCI]**
58. **Wang JS\***, Chen WL, Weng TP. Hypoxic exercise training reduces senescent T-lymphocyte subsets in blood. *Brain Behav Immun.* 2011;25(2):270-8. **[SCI]**
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96. Chou SL, Huang YC, Fu TC, Hsu CC, Wang JS\*. Cycling exercise training alleviates hypoxia-impaired erythrocyte rheology. *Med Sci Sports Exerc*. 2015; In press **【SCI】**
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135. Huang, Y. C., Tsai, H. H., Fu, T. C., Hsu, C. C., & Wang, JS\*. High-Intensity Interval Training Improves Left Ventricular Contractile Function. *Medicine & Science in Sports & Exercise*, 2019 ,submitted. 【SCI】
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145. Liu, H. C., Han, D. S., Hsu, C. C., & Wang, JS\*. Circulating MicroRNA-486 and MicroRNA-146a serve as potential biomarkers of sarcopenia in the older adults. *BMC geriatrics*, 2021. submitted. 【SCI】
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## B. 專書明細

@ 國際

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2. High Altitude Medicine and Physiology, Jong-Shyan Wang. From Chapter 4 to Chapter 9 Translation; Hodder Arnold, 2009 in press

@ 國內

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3. 運動生理學 · 2008 · 新文京出板社
4. 循環與呼吸物理治療學 · 2009 · 華格那出板社
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### C. 產學合作專利:

申請國家	中文專利名稱	英文專利名稱	日期	申請案號	專利種類
中華民國	降低風阻之運動服製作方法及其結構		2019/7/1	I663925	發明
中華民國	環狀運動器材系統及其應用			109112415	發明
中華民國	環狀運動器材系統			109207453	新型
中華民國	具有運動處方功能之環型運動系統		2020/8/1	M599677	新型
中華民國	排列式運動裝置系統		2020/8/1	M599154	新型
中華民國	運動指引系統、運動指引方法及無氧閾值的量測方法	Exercise guiding system, exercise guiding method and anaerobic threshold measuring method		9724000	發明
中華民國	導電布料結構		2019/9/11	M583305	新型
中華民國	具導電按摩功效之衣料結構		2019/9/11	M583297	新型
中華民國	運動指引系統、運動指引方法及無氧閾值的量測方法	Exercise guiding system, exercise guiding method and anaerobic threshold measuring method	2017/9/1	I597617	發明
中華民國	智慧型腳踏車及其操作方法	Exercise bike and operation method		9682306	發明

		thereof			
中華民國	智能型腳踏車及其操作方法	Smart bike and operation method thereof		ZL2013100 05783.8	發明
中華民國	智慧型腳踏車及其操作方法	Smart bike and operation method thereof	2014/11/1	I458521	發明
中華民國	無氧閾心率偵測方法及系統	METHOD AND SYSTEM FOR ANAEROBIC THRESHOLD HEART RATE DETECTION	2016/11/1	I555508	發明
中華民國	用於健身器材之可調式阻力系統		2019/12/2 1	I680001	發明
中華民國	用於健身器材之雙向傳動機構		2020/2/11	I684474	發明
中華民國	排列式運動裝置系統		2020/8/1	M599194	新型

(一)五年內(2015.1.1迄今)已發表或已被接受發表之研究論文數量

研究 成果	<u>SCI、SSCI、EI 期</u>			其他學術期刊論文 (左列 3 類以外之論文)
	刊論文	SCI 論文	SSCI 論文	
作者序				
第一作者 論文篇數	3	0	0	2
非第一作者之通訊作者 論文篇數	22	0	0	3
非第一或通訊作者之其 他序位作者論文篇數	18	0	0	1
總篇(件)數(以上總和)	43	0	0	6

(二)五年內已獲得或已刊登之下列研究成果數量

成果名稱	專利	技轉	研討會論文摘要	專書或專書章節	其 他
(件、冊、章、篇)數	16		國際: 32 國內: 15	國際:1 本 國內:2 本	

(三)十年內獲得獎勵情形

年 度	請選填下列獎項名稱：
	傑出獎、吳大猷獎、其他獎(請填其他獎之名稱)
1. 100 年	國科會補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
2. 101 年	國科會補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
3. 102 年	國科會補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
4. 103 年	國科會補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
5. 104 年	國科會補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
6. 105 年	國科會補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
7. 106 年	國科會補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
8. 107 年	科技部補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
9. 108 年	科技部補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎
10. 109 年	科技部補助大專校院 嘉獎特殊優秀人才：[ A 級] 嘉獎

## 二、近五年內之研究成果，其中最具代表性研究成果論文(5篇為限)

序號	論文資料	備註
1	<p><b>Wang JS*</b>, Lee MY, Lien HY, Weng TP. Hypoxic exercise training improves cardiac/muscular hemodynamics and is associated with modulated circulating progenitor cells in sedentary men. <i>Int J Cardiol.</i> 2014 Jan 1;170(3):315-23. (IF=7.078; R/C=7/117, CARDIAC &amp; CARDIOVASCULAR SYSTEMS).</p>	<p>本研究團隊積極規劃與發展”結合環境因子之運動治療”，希望能以更科學驗證方法，設計一套”安全”而”有效”的低氧處方，以一方面增進個體有氧適能，同時亦可達到預防疾病、促進健康的目的。目前在間歇性低氧的研究成果，已展現於國際著名指標性學術期刊，備受肯定。此系列研究計畫所獲之成果，能進一步開拓結合環境因子之新復健醫療策略，有效達成”改善體能、預防疾病、增進健康”的目標。 <b>IF=7.078</b></p>
2	<p>Fu TC, Wang CH, Lin PS, Hsu CC, Cherng WJ, Huang SC, Liu MH, Chiang CL, <b>Wang JS*</b>. Aerobic interval training improves oxygen uptake efficiency by enhancing cerebral and muscular hemodynamics in patients with heart failure. <i>Int J Cardiol.</i> 2013 Jul 15;167(1):41-50. (IF=7.078; R/C=7/117, CARDIAC &amp; CARDIOVASCULAR SYSTEMS).</p>	<p>首創系統性評估方式瞭解心臟衰竭患者運動限制，精確設計”安全而有效”的運動處方。突破傳統運動訓練限制，創新設計 AIT 介入策略，有效改善病患之心臟動力學變化、與大腦/活動骨骼肌血流運行與氧氣利用的效率。 同年獲【國家品質標章 (SNQ)】肯定。 <b>IF=7.078</b></p>
3	<p><b>Wang JS*</b>, Fu TC, Wang CH, Chou SL, Liu MH, Cherng WJ. Exertional periodic breathing potentiates erythrocyte rheological dysfunction by elevating pro-inflammatory status in patients with anemic heart failure. <i>Int J Cardiol.</i> 2013 Aug 20;167(4):1289-97. (IF=7.078; R/C=7/117, CARDIAC &amp; CARDIOVASCULAR SYSTEMS)</p>	<p>運動週期性呼吸與貧血是心臟衰竭患者重要共病症，與其預後發展有關。本研究首次結合”流體動力學(hemodynamics)”與”紅血球流變特性(hemorheology)”論述其致病機轉，與可能造成運動不耐受性與生活品質低落之原因。 <b>IF=7.078</b></p>
4	<p>A. <b>Wang JS*</b>, Fu TC, Lien HY, Wang CH, Hsu CC, Wu WC, Chien YW, Cherng WJ. Effect of aerobic interval training on erythrocyte rheological and hemodynamic functions in heart failure patients with anemia. <i>Int J Cardiol.</i> 2013 Sep 30;168(2):1243-50. (IF=7.078; R/C=7/117, CARDIAC &amp; CARDIOVASCULAR SYSTEMS) B. <b>Wang JS*</b>. Anemia, heart failure and exercise training. <i>Int J Cardiol.</i> 2013 Sep 30;168(2):1525-6. (IF=7.078; R/C=7/117, CARDIAC &amp; CARDIOVASCULAR SYSTEMS)</p>	<p>延續上述結合分析流體動力學與流變特性之方法，精確設計針對有貧血共病之心臟衰竭患者”安全而有效”的運動處方。突破傳統運動訓練限制，創新設計運動介入策略，有效改善病患之運動不耐受性與提升其生活品質(A)。並受邀撰寫評述(B)，並受國際學者極大迴響與肯定，已然為具國際代表性臨床研究標地。 同年本研究團隊(長庚心臟衰竭中心)榮獲財團法人醫院評鑑暨醫療品質策進會【醫療品質獎(HQIC)】金獎肯定。 <b>IF=7.078</b></p>
5	<p><b>Wang JS*</b>, Cheng ML, Yen HC, Lou BS, Liu HC. Vitamin E suppresses the enhancement of factor VIII-dependent thrombin generation by systemic hypoxia. <i>Stroke.</i> 2009;40(2):656-9. (IF= 6.158 R/C=8/67, PERIPHERAL VASCULAR DISEASE)</p>	<p>首次發現暴露劇烈低氧下會提升血液中的氧化壓力，進而刺激血管內皮細胞釋出血液凝固因子 VIII，以致血液中凝血素的生成增加；但如事先服用抗氧化劑，則可預防於此凝血素生成上升的危險。相對地，處於中低程度之氧氣環境並不會影響血液中凝血素的生成速率與後續的凝血反應。此成果可呼應本年度計畫在心臟衰竭之發炎性血栓的臨床研究方向。 <b>IF= 6.158</b></p>

### 三、過去完成最佳之五篇論文(選列過去完成最佳之五篇論文，不限發表時間)

序號	論文資料	備註
1	<u>Wang JS</u> , Jen CJ, Kung HC, Lin LJ, Hsieh TR, Chen HI. Different effects of strenuous exercise and moderate exercise on platelet function in men. <u>Circulation</u> . 1994;90:2877-85. (IF=14.739; R/C=1/117, CARDIAC & CARDIOVASCULAR SYSTEMS)	引用次數達 142 次
2	<u>Wang JS</u> , Jen CJ, Chen HI. Effects of exercise training and deconditioning on platelet function in men. <u>Arteriosclero Thromb Vasc Biol.</u> 1995;15:1668-74. (IF=6.368; R/C=3/67, PERIPHERAL VASCULAR DISEASE)	引用次數達 98 次
3	<u>Wang JS</u> , Jen CJ, Lee H, Chen HI. Effects of short-term exercise on female platelet function during different phases of the menstrual cycle. <u>Arteriosclero Thromb Vasc Biol.</u> 1997;17(9):1682-6. (IF=6.368; R/C=3/67, PERIPHERAL VASCULAR DISEASE)	引用次數達 78 次
4	<u>Wang JS*</u> , Cheng L-J. The effect of strenuous acute exercise on 2-adrenergic agonist-potentiated platelet activation. <u>Arteriosclero Thromb Vasc Biol.</u> 1999;19:1559-65. (IF=6.368; R/C=3/67, PERIPHERAL VASCULAR DISEASE)	引用次數達 58 次
5	<u>Wang JS*</u> , Li Y-S, Chen J-C. Effects of exercise training and deconditioning on platelet Aggregation induced by alternating shear stress in men. <u>Arteriosclero Thromb Vasc Biol.</u> 2005;25:454-460. (IF=6.368; R/C=3/67, PERIPHERAL VASCULAR DISEASE)	引用次數達 46 次

上述五篇重要學術貢獻是，創建 **運動對血栓調節之三維 J 型曲線模型**，亦即；急性中度運動劑量 (50~60%VO<sub>2max</sub>) 會減緩血栓形成之危險，但重度運動 ( $\geq 80\%$  VO<sub>2max</sub>) 則會促進之；然經規律的中等運動訓練後，此 J 型曲線會趨於平緩，不僅降低休息時血栓形成速率，亦減弱急性重度運動誘發血栓形成危險。此研究成果曾為 [美國心臟協會] 與 [國際血栓暨凝血協會] 所屬之期刊 *Arterioscler Thromb Vasc Biol* 與 *Thromb Haemost*，在 EDITORIAL FOCUS 中，就本系列相關論文做 [專文論述] 或刊登至 [期刊封面] 展示。目前這些論文成果已為復健醫學、運動科學等相關教科書 (如; *Rehabilitation medicine: principles and practice*) 收錄，並獲登載於英國出版之醫學百科全書 “*Exercise and haemostasis in health and disease*” on Medical Encyclopedia 出版。