

國立清華大學

對本院整體發展之意見

化學系 季昀

中華民國 101 年 8 月 31 日

理學院的同仁大家好：

首先，十分感謝遴選委員會，讓我能有此機會向各位陳述理學院的整體發展藍圖，並為建立一個更加完善的教學、研究環境而努力。

我以身為清華大學理學院的校友為榮，亦慶幸得以親身見證眾多畢業校友與師長創造的傳奇，無論是校園軼事或是對國家社會之直接貢獻。清華大學在 1956 年於台灣新竹復校之初，即設置了原子科學研究所，名義上是為推動核能研究，實質卻是著重在基礎自然科學研究及人才培養，下設數學、物理、放射化學三組即為明證，其中放射化學組便是日後化學系的前身。接著，清華大學成立理學院以整合並推動（自然科學）數學、物理、化學的發展；稍後，理學院並成立分子生物研究所（今生命科學院前身）暨計算機管理決策中心（現併入電機資訊學院），對擴展校務扮演了舉足輕重之角色。創院院長、沈君山教授，與第三任院長、劉兆玄教授，對台灣科學界、政界的影響亦常為人所津津樂道。

近年來，在現任院長、古煥球教授的領導下，理學院已訂定「追求學術卓越」為願景。為配合達成此項願景，經參考國際學術演進趨勢乃增加下列三項教育目標：(1)持續推動跨領域教學，培養兼具基礎科學素養及應用科技研發能力之學生。(2)進行世界級前瞻科學研究，營造創新、卓越的研究氣氛與環境，培育尖端科技研究人才。(3)科技與人文並重，關注國家科技發展，積極推動改革，並對社會做出正面貢獻。

未來理學院的發展，乃應持續推動前述願景、教育目標與實施方法，使理學院能夠成為校內基礎及自然科學的教育與研發中心，進而在此厚實基礎上，使清華大學能夠成為國家經濟暨科技永續發展的實質重鎮。

發展期許：

凝聚全院師生向心力。維持並提升本院大學部之各項基礎、進階科目教學品質。在尊重各系既有之學術體制與良性傳統的前提之下，首先要確認各系的自我定位；例如：在進階教學、基礎研究、應用技術開發、產業合作等四項指標的對應現況，並依據前述定位暨學術特色提出必要改革與發展策略。除此以外，未來亦要促成院內研究領域相近（互補）教授（團隊）的積極合作，並鼓勵參加跨校、跨國團隊的研究計畫申請，提供配套，以提升整體學術水平。

理念與執行方法：

(1) 協助延攬優秀師資，改善基礎教學設備、措施與品質，強化教學與學術研究競爭力。

說明：理學院已具備優良的教學師資及研究人才庫，預估僅需給予適當的催化刺激，即能進行良性自我演化、成長與茁壯，理學院各系的教師人數暨重要獎項獲獎統計請參見下表。

系所	專任教師	國家講座	傑出人才講座	教育部學術獎	國科會傑出獎
數學系	24	1	1	2	4
物理系	32	-	2	1	7
天文所	5	-	-	-	-
化學系	27	3	4	4	10
統計所	11	1	-	1	2
合計	99	5	7	8	23

(2) 改善教學環境，鼓勵同仁積極投入新教材、新教法的規劃研究，增強學生學習效果。

說明：物理系林秀豪、數學系高淑蓉與顏東勇教授，多次榮獲傑出教學獎，經教務處邀請已錄製「開放式課程」，供有興趣者透過網路下載以進行自學。目前的錄製科目均以基礎學科為主；如：普通物理、微積分、代數等。由於數學、物理、化學均屬於基礎科學課程，理學院應提供配套，鼓勵有志教學之同仁積極參與類似「開放性課程」之設立與規劃。

(3) 促進院內、跨所系的教學與研究合作，利用既有團隊的學術成就以突顯教學與研究實力；推動並建立短、中、長期教學與研究人力聘任規劃。

(4) 增聘女性教師，以積極行動平衡全院兩性教師的合理比例。

說明：本院大學部與碩士班共有學生 922 與 402 人，其中女性學生分佔 22% 與 26%。惟理學院有助理教授以上教師 99 人，其中女性教師 15 人、約為 15%，稍有落後學生性別比例指標之現象。

理學院教師統計	男教師	女教師
化學系	24	3
物理系	30	2
數學系	21	3
統計所	6	5
天文所	3	2
總計	84	15

(5) 改善研究環境，爭取參加各項整合型國家計畫暨國際合作研究計畫。籌措必要經費以購置核心研究設施，支援前瞻研究需求、平衡新進與資深同仁之間的資源差異。

(6) 爭取校方給予以理學院暨相關教學暨研究單位更充裕的空間配置，

提升教學與研究潛能。

說明：因應圖書館搬遷至新啟用的旺宏館，理學院應利用此機會爭取更多空間，供本院各單位使用。

(7) 落實院務會議代表功能，整合理學院的長期發展方向與提出具體執行建議。

(8) 以理學院「校慶傑出校友表揚大會」的成功範例作為起點，籌辦「理學院聯合畢業典禮」，凝聚師生情感。

說明：本校的部分院級教學單位，例如：科管院、電資院、原科院、生科院，均已在畢業典禮當天舉辦院級的畢業典禮，拉近與畢業生與家長距離。此項活動在這些單位已行之有年、深獲好評，理學院是否應遵循此項模式？

(9) 配合校方，增強與校友、產業界、各層次校外人士的互動，爭取設置獎學金、講座與支援學術研究。

說明：理學院因處教學（研究）暨學校行政中樞之間，僅能以間接（個人）管道聯絡校友暨各階層校外人士，此管道未來將予補強、並用更積極的態度擴張對外聯繫。此外，理學院設有雙專長學士班，已有三屆畢業生共約百人，該班畢業生預期亦能作為理學院的未來對外聯繫推手。

以上各項為個人之淺見，如有謬誤，敬請指正。

化學系 李昀 敬上

個人履歷

一、基本資料

身份證號碼												
中文姓名	季 昀					英文姓名	Yun Chi					
							(Last Name) (First Name) (Middle Name)					
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二、主要學歷 請填學士級以上之學歷或其他最高學歷均可，若仍在學者，請在學位欄填「肄業」。

畢／肄業學校	國別	主修學門系所	學位	起訖年月(西元年/月)
伊利諾大學香檳分校	美國	化學研究所	博士	82 / 08 至 86 / 07
國立清華大學	台灣	化學系	學士	75 / 09 至 78 / 06
				___ / ___ 至 ___ / ___

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(西元年/月)
現職：國立清華大學	化學系	教授	1991 / 08
	化學系	特聘講座教授	2011 / 01
	理學院	副院長兼學士班主任	2007 / 02
經歷：加拿大國家科學研究院		訪問科學家	1996 / 01 至 1996 / 07
美國南卡羅蘭那大學	化學系	訪問教授	1991 / 07 至 1991 / 12
國立清華大學	化學系	副教授	1987 / 08 至 1991 / 07
美國麻省理工學院	化學系	博士後研究	1986 / 08 至 1987 / 07
			___ / ___ 至 ___ / ___

四、專長 請自行填寫與研究方向有關之學門及次領域名稱。

1. 有機金屬化學	2. 材料化學	3. 化學氣相沈積	4.
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五、曾任學術職務、獎勵與榮譽

Outstanding Research Performance Award, sponsored by National Science Council of Taiwan, R. O. C. 國科會傑出學術獎連續三屆 (August 1990 – July 1996)

Research Fellow of National Science Council of Taiwan, R. O. C. 國科會特聘研究員 (August 1997 – July 2001)

Chung San Scholastic Award 中山學術獎 (1997)

Editorial Board, *Journal of Cluster Science*, Plenum Press (1992 –1998)

Advisory Board, *Organometallics*, American Chemical Society (1996 –1998)

Academic Award, Ministry of Education 教育部學術獎自然科學類 (2006)

Associate Editor, *J. Chinese Chem. Soc.*, 中國化學會誌 (2007 –2008)

第五屆有庠科技論文獎，奈米科技類 (2007)

NSC/NRC 卓越學者 (2008)

National Chair Professor, Ministry of Education 教育部國家講座 (2010)

五、研究領域與重要研究成就

有機金屬化學：

1. 合成鑑定含有各式有機碳氫分子的同核或異核金屬簇化合物
2. 透過瞭解這類型金屬簇化合物的化學來解釋基本的催化反應機構
3. 探討過渡金屬錯合物的基礎光物理現象

材料化學

1. 研發新型的化學氣相層積反應的前驅物
2. 製備過渡金屬，金屬氧化物及金屬氮化物的薄膜材料
3. 製備過渡金屬氧化物的奈米級柱狀結構，並探討它們的基礎特性
4. 製備高亮度、有機金屬螢、磷光發光二極體材料
5. 敏化太陽能電池之染料試製與元件優化

著作引用資料

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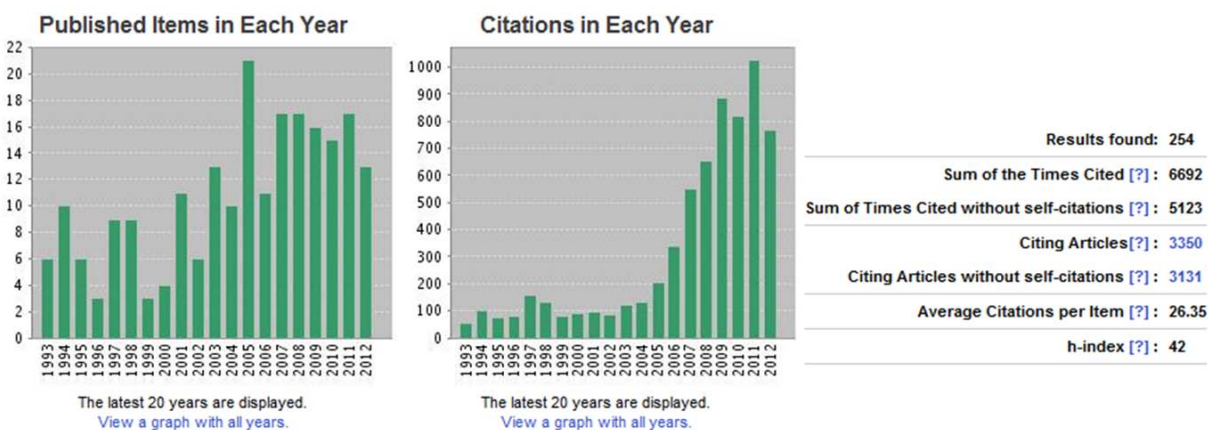
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