

化學系—王素蘭教授

一、學歷

國立台灣師範大學化學系學士 (1976)

國立台灣大學化學研究所碩士 (1980)

美國 Iowa 州立大學化學研究所博士 (1985)

二、經歷

服務單位	專/ 兼 任	職稱	<u>起迄年月</u>
教育部科學教育指導委員會	兼	委員	2013/01~2014/12
國科會自然處化學學門		審議委員	2010/01~2013/12
教育部奧林匹亞國際競賽		諮詢委員	2010/10~ 2014/09
國立清華大學基礎科學中心		主任	2010/02 ~ 2010/07
國際結晶學無機物質委員會		顧問	2008/08 ~2014/12
國科會化學推動中心		審議委員	2007/01 ~ 2009 /12
中國化學會新竹分會		理事長	2007/01 ~ 2008/12
教育部奧林匹亞培訓計畫		指導委員	2007/01 ~ 2008/12
國立清華大學化學系		主任	2006/08 ~ 2009/07
國科會自然處化學學門		諮議委員	2006/01 ~ 2008/12
清華大學高中科學人才培育計畫		主持人	2003/08 ~ 2006/07
美國 Santa Barbara 加州分校		訪問教授	1993/08~ 1994/02
國立清華大學化學系		教授	1991/08~ 2020/07
德國 Max Planck Institute		訪問教授	1989/08 ~ 1989/10
國立清華大學化學系	專任 副教授	1986/08 ~ 1990/07	
美國 Exxon Research & Engineering Co.	專任 博士後研究	1986/02 ~ 1986/08	

三、榮譽

- . Research Excellence Award, Iowa State University (1985)
- . 八十一、八十二年度國科會優良研究獎 (1992, 1993)
- . ISI Citation Classic Awards, 美國科學資訊與國科會科學技術資料中心 (2001)

- . 第四屆有庠科技論文獎(奈米科技類) (2006)
- . 九十五年度國科會傑出研究獎 (2006-一次性新制)
- . 第四十一屆中山學術獎(自然科學類) (2006)
- . 九十七年度第一期『傑出人才講座』 (2007-2012)
- . 國立清華大學特聘教授 (2009)
- . 第五十四屆教育部學術獎 (2010)
- . 國立清華大學講座教授 (2010)
- . 中國化學會化學學術獎章 (2011)
- . 第十六屆教育部國家講座 (2012)
- . 國立清華大學特聘講座教授 (2013)
- . 第六屆「台灣傑出女科學家獎」 (2013)
- . 國立台灣師範大學第十五屆傑出校友 (2015)
- . 第二十屆教育部國家講座(終身國家講座) (2016)
- . Iowa State University Outstanding Alumnae Award (2019)

四、研究領域

X-ray Crystallography,

. Inorganic Solid-State Materials & Structure Chemistry

五、研究興趣與成果

In the last score of years, we have been interested in developing crystalline nanoporous solids in the realms of metal phosphates and phosphites because of they are of great potential to many industrial applications. We have designed new synthetic methods and created new solid materials with interesting properties. Our research that has embodied two-fold significant results:

In the search for the synthesis of novel framework topology, we have obtained and reported many record-high large channel structures, named under *NTHU-n* and all published in *J. of American Chemical Society* or *Angew. Chem. Int. Ed.* Particularly as the foremost, we solved the long-standing problem of achieving the formation of

mesopores that could gradually enlarge from micropores without losing crystallinity in pore walls. Our results published in Science in 2013, in which we presented an amazingly simple templating strategy beyond the assumptions of any prior theoretical studies, importantly breaking the long-term mindset in the thinking of effect templates for the formation of mesopores.

Our research also pioneered the intrinsic lanthanide-free photoluminescence for phosphors, an unexpected and exotic optical properties in nanoporous structures. Therefore, beyond the scope of exploring anticipated gas sorption properties, we once were under enormous spotlight from making the first intrinsic white-, yellow- and green-light inorganic phosphors out of having no condensed structure but porous solids. In addition, during the course of our studies, we have also made it possible using no any chiral reagents to prepare chiral framework solids. Worth to mention that in the very recent years we have successfully developed new synthetic routes to novel trivalent titanium phosphates and phosphites which have been rare compounds and structures in solid-state materials, especially in the field of reduced titanium oxysalt.

Publications & Patents

Authors and co-authors of total 305 publications in SCI journals

Six patents : 3 R.O.C. Patents and 3 US Patents