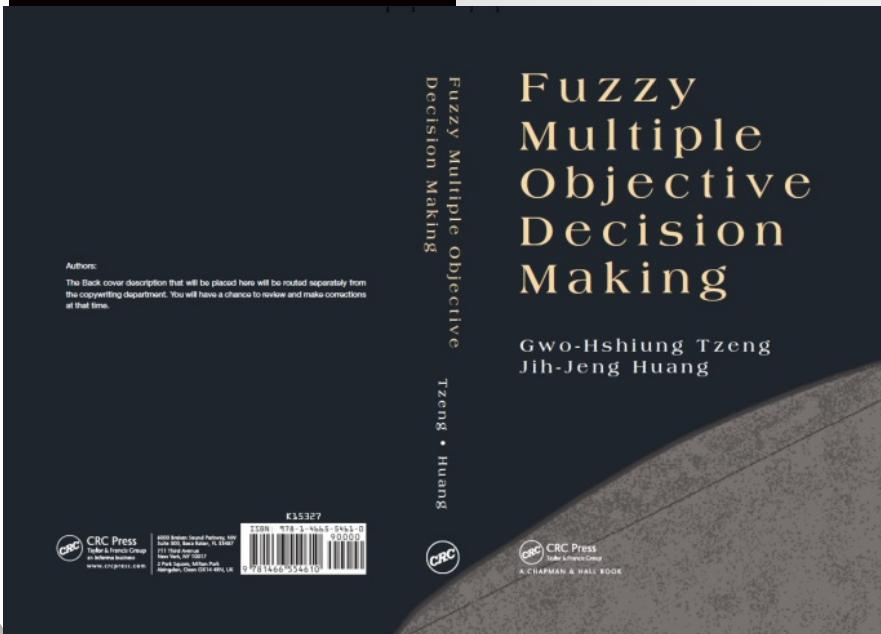


# Sharing experiences for MOST project activities (分享科技部計畫經驗活動)



**Gwo-Hshiung Tzeng**  
Distinguished Chair Professor

**College of Public Affairs  
National Taipei University**

**Talk for Sharing Experiencses, NTPU  
Administration Building F4, Room 2  
September 22 (Mon, 12:00-14:00pm), 2014**

# Promoting Research/Working Ability for Writing MOST Project

“Story (Objects)” of Real Case (Case Study in Experience) for Solving Real World Problems

+

Research Methods for Problems-Solving  
(Which methods will be new hybrid MCDM model?)



Expressions in Results

(How to Promote the Writing Skills and Speech Skills in Logic)

計畫主題研訂、計畫書撰寫重點、竅門、計畫審查重點

# **OUTLINE**

- **Part I: What kind of MOST project?**
- **Part II: How to find a good research topic?**
- **Part III: How to write the high-quality/good project proposal in writing skill?**
- **Part IV: Which criteria to review MOST project proposal?**

# Google Scholar

Gwo-Hshiung Tzeng

Distinguished Chair Professor

Research methods for problems-solving: Data Analysis (crisp sets, fuzzy set theory, rough set theory -> statistics and multivariate analysis, evolutionary computation, soft computing, etc.), multiple criteria decision making (MADM and MODM), and so on for applications in the real world problems

+

Citation indices

All

Since 2009

Citations

12969

10227

h-index

60

52

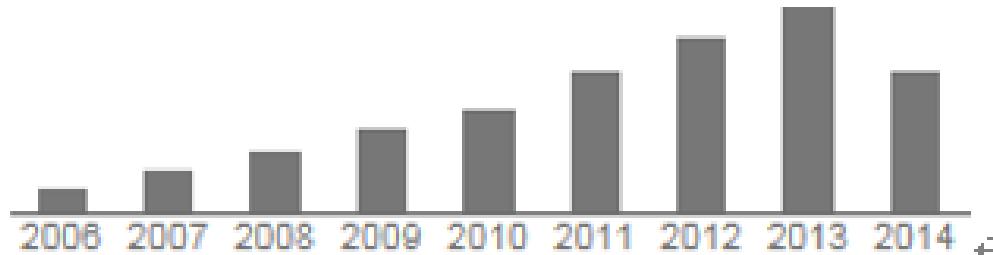
i10-index

175

157

Citations to my articles

+



September 20, 2014: 2009 (1049 times),

2010 (1262 times), 2011 (1688 times),

2012 (2118 times), 2013 (2429 times),

2014 (1668 times).

<http://scholar.google.com/citations?user=ZRXOrvQAAAAJ&hl=en>

# MOST NSC Projects in Each Year

## 2014

Gwo-Hshiung-Tzeng, New Hybrid Dynamic MCDM Model in Developments and its Applications (新式混合動態多評準決策模式之開發與其應用), 101-2410-H-424-009-MY3-(3/3), August 1, 2014—July 31, 2015.

Gwo-Hshiung-Tzeng, Determine the market position for VTS service systems based on service value position (以服務價值主張建構車導資訊通訊服務系統之市場定位), 101-2221-E-424-005-MY3-(2/3), August 1, 2014—July 31, 2015.

Gwo-Hshiung-Tzeng, Determining the tourism resource plan based on the service market position using the novel MCDM approach (以服務市場定位模式建構觀光資源規劃策略), NSC 102-2410-H-424-024—MY2-(2/2), August 1, 2014—July 31, 2015.

Gwo-Hshiung-Tzeng, The Academic Website of “Research Methods for Problems-Solving: Theories and Applications of New Hybrid MCDM Model (「問題解決之研究方法:新混合式多評準決策模型之理論與應用研究」學術網站申請案), NSC 102-2420-H-002-001-W10308, January 1—December 31, 2014.

# MOST NSC Projects in Each Year

## 2013

Gwo-Hshiung Tzeng, New Hybrid Dynamic MCDM Model in Developments and its Applications (新式混合動態多評準決策模式之開發與其應用), 101-2410-H-424-009-MY3 (2/3), August 1, 2013 – July 31, 2014.

Gwo-Hshiung Tzeng, Determine the market position for VTS service systems based on service value position (以服務價值主張建構車導資通訊服務系統之市場定位), 101-2221-E-424-005-MY3 (2/3), August 1, 2013 – July 31, 2014.

Gwo-Hshiung Tzeng, Determining the tourism resource plan based on the service market position using the novel MCDM approach (以服務市場定位模式建構觀光資源規劃策略), NSC 102-2410-H-424 -024 – MY2 (1/2), August 1, 2013 – July 31, 2014.

# **MOST NSC Projects in Each Year**

## **2012**

Gwo-Hshiung-Tzeng, New Hybrid Dynamic MCDM Model in Developments and its Applications (新式混合動態多評準決策模式之開發與其應用), 101-2410-H-424-009-MY3 (1/3), August, 2012 – July, 2013.

Gwo-Hshiung-Tzeng, Determine the market position for VTS service systems based on service value position (以服務價值主張建構車導資通訊服務系統之市場定位), 101-2221-E-424-005-MY3 (1/3), August, 2012 – July, 2013.

Gwo-Hshiung-Tzeng, Building an MCDM Model for Enterprise Project Governance and R&D Innovation with Concurrent Engineering to Implement Project Management Modeling and Simulation (建構企業專案治理與研發創新同步工程多評準決策模式模擬) (NSC 99-2632-H-424-001-MY3), (III/III), August, 2012 – July, 2013.

Gwo-Hshiung-Tzeng, A frontier multiple-criteria decision-making model for Innovation management (創新管理多準決策模型之應用): Performance

【科技部人社中心】103年度「補助跨領域整合型研究計畫之前置規劃案」申請案全年受理申請！

# 103年度 科技部人文社會科學研究中心 補助跨領域整合型研究計畫之前置規劃案

為提升國內人文及社會科學研究水準，並推動跨領域整合研究，歡迎各學界朋友踴躍申請本中心跨領域規劃案補助。

申請時間：請於規劃案擬定開始執行日**三個月前**向本中心提出申請。

申請資格：規劃案召集人須符合下列資格之一：

- (1) 曾獲科技部傑出研究獎。
- (2) 近五年內執行三次以上科技部研究計畫。
- (3) 其他相當之學術榮譽獎項。

且所提出之規畫案應包含至少**三個子計畫**。

其他相關資訊請參閱：  
<http://www.hss.ntu.edu.tw/model.aspx?no=98>  
或請來信來電詢問，謝謝您。

承辦人：楊馥榕  
電話：02-23519641#612  
E-mail：[reiyang@ntu.edu.tw](mailto:reiyang@ntu.edu.tw)

若無法顯示內容，請[按此](#)！

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TEL: +86-2-23511085、23511093、23511126、23511132 (25席)

FAX: +86-2-2351-1090 地址: 10055 臺北市中正區徐州路21號 科技部人文社會科學研究中心

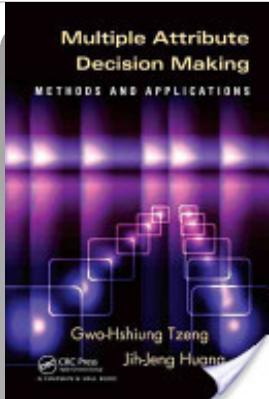
訂閱或取消電子報 

**申請資格：規劃案召集人須符合下列資格之一：**

- (1) 曾獲科技部傑出研究獎。
- (2) 近五年內執行三次以上科技部研究計畫。
- (3) 其他相當之學術榮譽獎項。

**且所提出之規畫案應包含至少三個子計畫。**

1. 七十四年度國科會「人文」「經濟學門」傑出研究獎(七十四年度至七十五年度)。
2. 八十二年度國科會「人文」「管理學門」傑出研究獎(八十二年度至八十三年度)。
3. 八十四年度國科會「人文」「管理學門」傑出研究獎(八十四年度至八十五年度)。
4. 八十六年度國科會特約研究員(八十六年至八十九年)；「人文」「管理學門」。
5. 八十九年度國科會特約研究員(九十年至九十三年)；「人文」「管理學門」。
6. 國家科學委員會「傑出特約研究員獎」（民國93年3月15日）。
7. 教育部第四屆國家講座（89年9月至92年7月）「人文社會科學類」。
8. 交通大學講座教授(92年8月起終生榮譽，條件：獲國科會「傑出特約研究員獎」、或獲教育部國家講座等)。
9. **The MCDM Edgeworth-Pareto Award (June 2009)**，全球國際最高獎，每兩年一名
10. **2000 Outstanding Intellectuals of the 21<sup>st</sup> Century-2005**
11. **Pinnacle of Achievement Award 2005**
12. **Life Fellow Award (2010) of ISME**



# Two New Books (1)

Multiple Attribute Decision Making: Methods and Applications

Gwo-Hshiung Tzeng, Jih-Jeng Huang, CRC Press, Taylor & Francis Group, 2011, 349 pages

- Decision makers are often faced with several conflicting alternatives. How do they evaluate trade-offs when there are more than three criteria? To help people make optimal decisions, scholars in the discipline of multiple criteria decision making (MCDM) continue to develop new methods for structuring preferences and determining the correct relative weights for criteria. A compilation of modern decision-making techniques, Multiple Attribute Decision Making: Methods and Applications focuses on the fuzzy set approach to multiple attribute decision making (MADM). Drawing on their experience, the authors bring together current methods and real-life applications of MADM techniques for decision analysis. **They also propose a novel hybrid MADM model that combines DEMATEL and DEMATEL-based ANP (DANP) with VIKOR procedures.**
- The first part of the book focuses on the theory of each method and includes examples** that can be calculated without a computer, providing a complete understanding of the procedures. Methods include the analytic hierarchy process (AHP), ANP, simple additive weighting method, ELECTRE, PROMETHEE, the gray relational model, fuzzy integral technique, rough sets, and the structural model. Integrating theory and practice; **the second part of the book illustrates how methods can be used to solve real-world MADM problems.**

# Multiple Objective Decision Making

Gwo-Hshiung Tzeng  
Jih-Jeng Huang



Click to open expanded view

## Two New Books (2)

### Fuzzy Multiple Objective Decision Making

Gwo-Hshiung Tzeng, Jih-Jeng Huang, CRC Press, Taylor & Francis Group, 2013, 313 pages

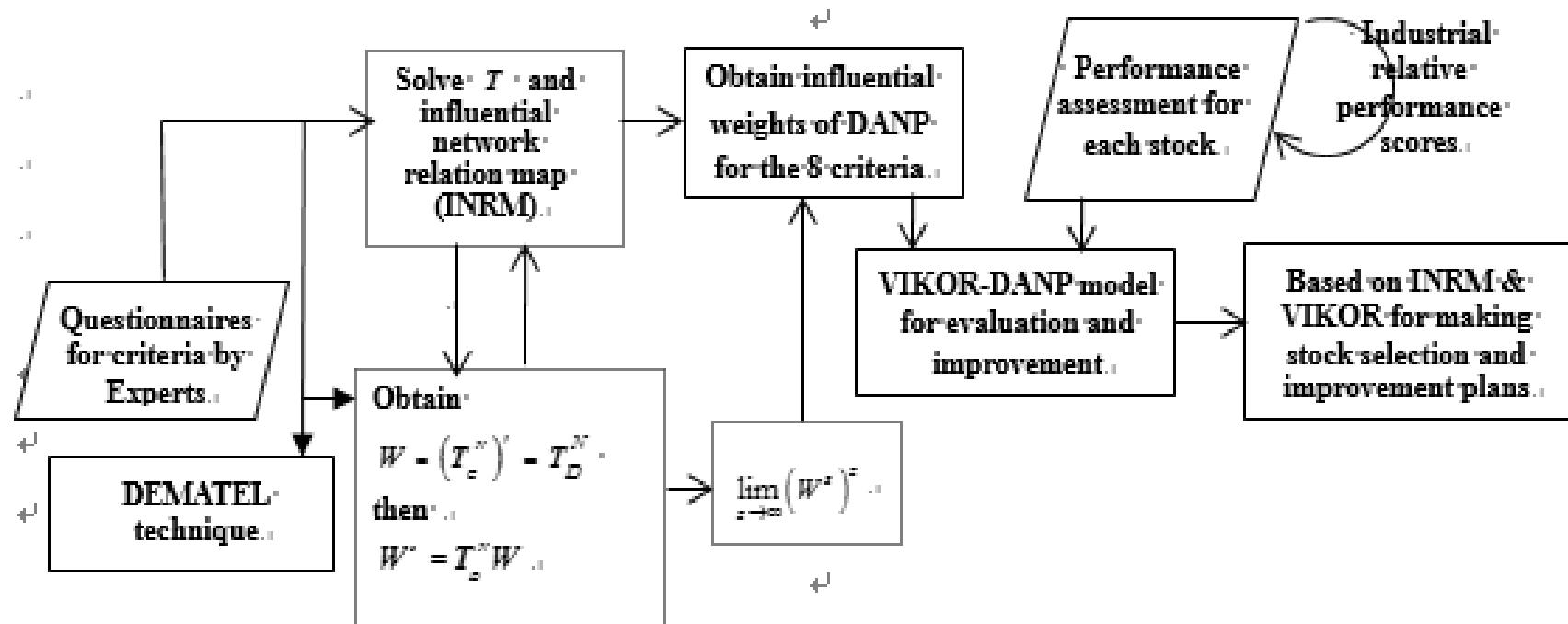
**Multi-objective programming (MOP)** can simultaneously optimize multi-objectives in mathematical programming models, but the optimization of multi-objectives triggers the issue of **Pareto solutions**

and complicates the derived answers. To address these problems, researchers often incorporate the concepts of fuzzy sets and evolutionary algorithms into MOP models.

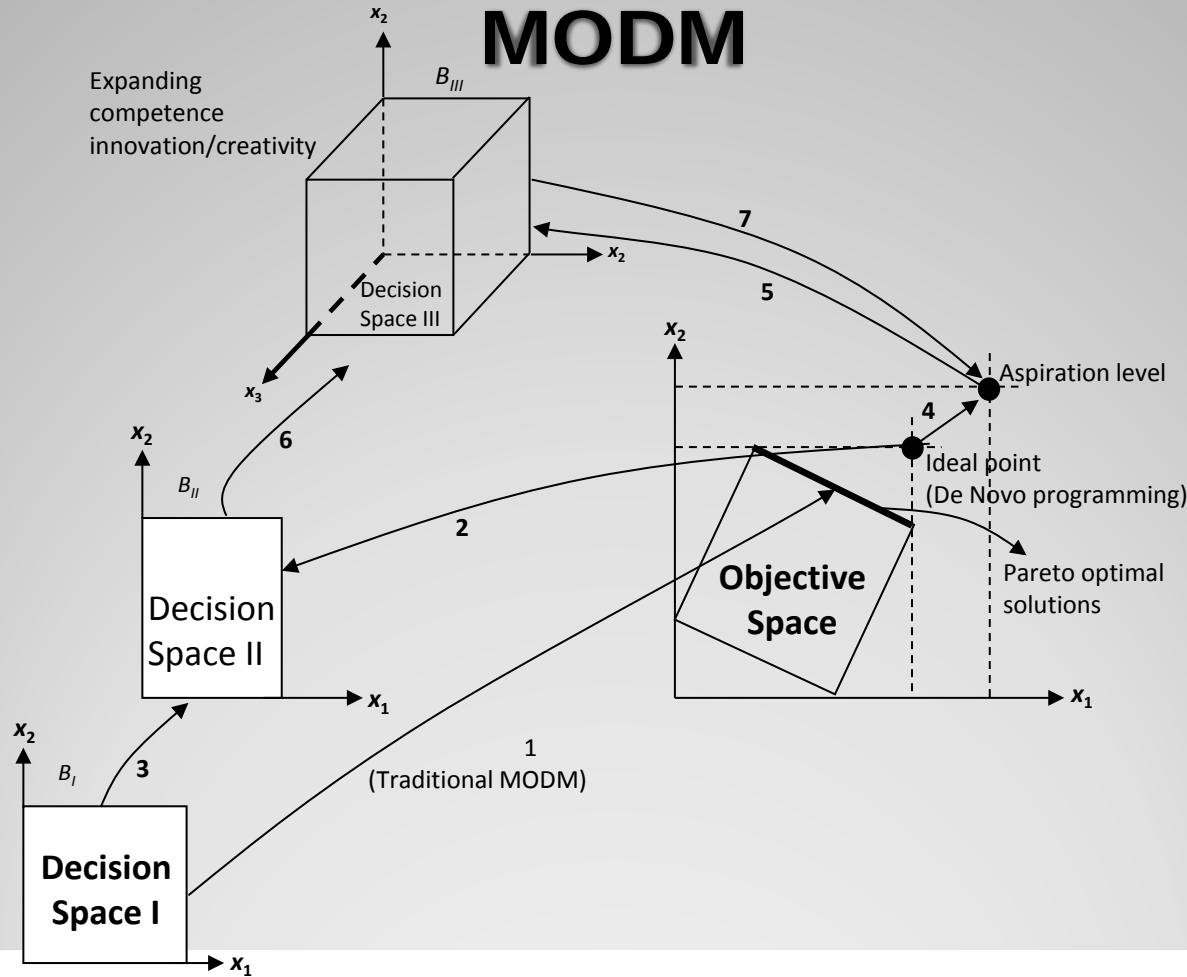
- Focusing on the methodologies and applications of this field, **Fuzzy Multiple Objective Decision Making** presents mathematical tools for complex decision making. **The first part of the book introduces the most popular methods used to calculate the solution of MOP in the field of multiple objective decision making (MODM).** The authors describe multi-objective evolutionary algorithms; **expand de novo programming to changeable spaces, such as decision and objective spaces;** and cover network data envelopment analysis. **The second part focuses on various applications,** giving readers a practical, in-depth understanding of MODM.
- A follow-up to the authors' *Multiple Attribute Decision Making: Methods and Applications*, this book guides practitioners in using MODM methods to make effective decisions. It also extends students' knowledge of the methods and provides researchers with the foundation to publish papers in operations research and management science journals.

# The Basic Concepts of New Hybrid MADM Model in the Real World

- Case of making stock selection and improvement plans -



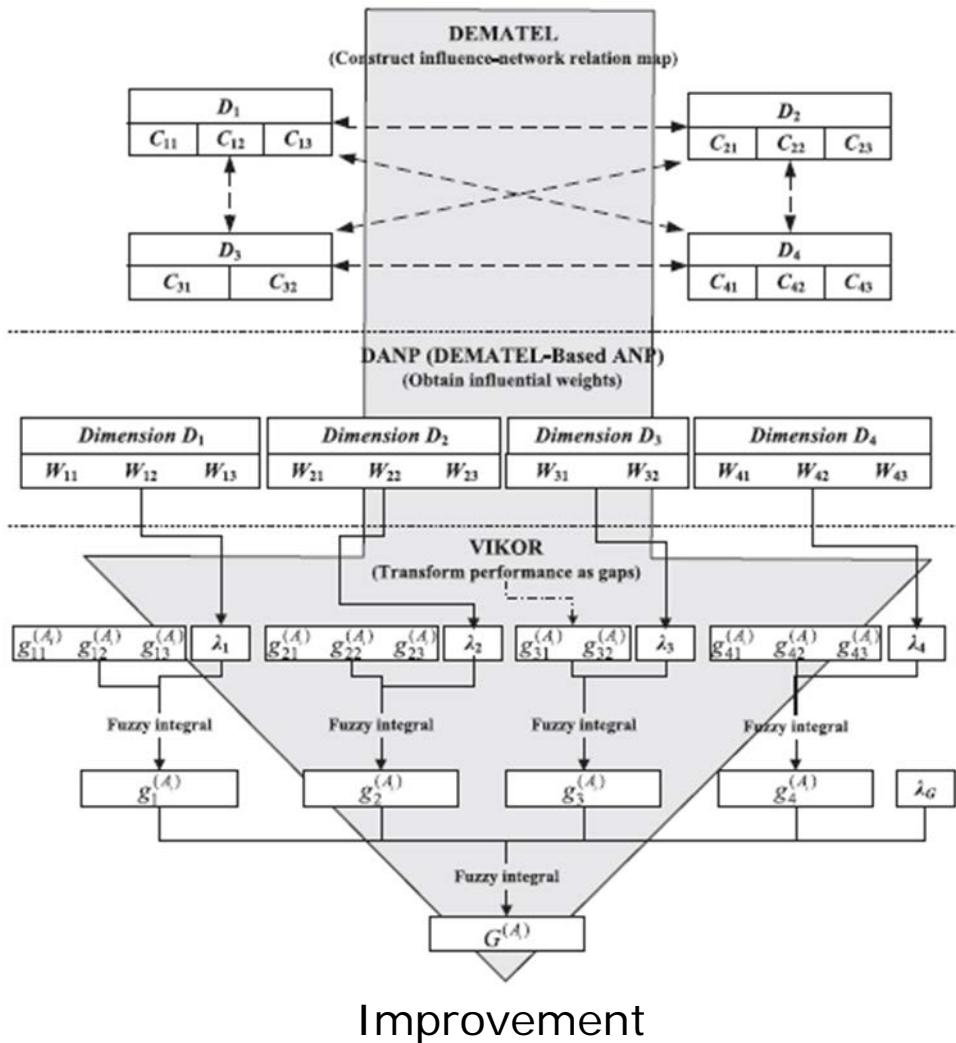
# The new concepts and Trends of changeable spaces and aspiration level in MODM



# Basic Concepts of New Hybrid MADM Model

202

JJH. Liou et al./Information Sciences 266 (2014) 199–217



**James J.H. Liou, Yen-Ching Chuang, Gwo-Hshiung Tzeng (Corresponding author) (2013)**  
"A fuzzy integral-based model for supplier evaluation and improvement, **Information Sciences**, 266, 199–217 (Impact factor: 3.643, 5-Year Impact Factor: 3.676, 2012).

**Example in the real world**

# Changeable Spaces Programming by Stages in New Thinking of MODM

Concept	Graphical Representation	Approach
Value (Win-Win)	<p>The diagram illustrates the 'Value (Win-Win)' concept through three stages of decision-making:</p> <ul style="list-style-type: none"> <li><b>Stage 1:</b> A 3D cube labeled 'Decision-Space B3' is shown. An arrow points from a point <math>x_0^{(1)}</math> on the vertical axis to a point <math>x_1^{(1)}</math> on the horizontal axis.</li> <li><b>Stage 2:</b> A 2D coordinate system with axes <math>f_1^{(1)}</math> and <math>f_2^{(1)}</math> shows the 'Objective Space'. A diamond-shaped feasible region is defined by constraints <math>g_1 \leq 0</math> and <math>g_2 \leq 0</math>. A point <math>x_0^{(2)}</math> is on the <math>f_2^{(1)}</math>-axis, and a point <math>x_1^{(2)}</math> is on the <math>f_1^{(1)}</math>-axis. A dashed line connects <math>x_0^{(1)}</math> to <math>x_0^{(2)}</math>, and another dashed line connects <math>x_1^{(1)}</math> to <math>x_1^{(2)}</math>. An 'Ideal-Point' is marked at the top-right corner of the feasible region. A horizontal line labeled 'Aspiration-Level' passes through the Ideal-Point, intersecting the feasible region at a point <math>Q</math>.</li> <li><b>Stage 3:</b> Similar to Stage 2, but the feasible region is shifted, indicating a change in the decision space due to innovation.</li> </ul>	<ul style="list-style-type: none"> <li>making-aspired-decisions-by-expanding-competence-sets-through-innovation..</li> </ul>
Price (Win-Lose)	<p>The diagram illustrates the 'Price (Win-Lose)' concept through three stages of decision-making:</p> <ul style="list-style-type: none"> <li><b>Stage 1:</b> A 3D cube labeled 'Decision-Space B1' is shown. An arrow points from a point <math>x_0^{(1)}</math> on the vertical axis to a point <math>x_1^{(1)}</math> on the horizontal axis.</li> <li><b>Stage 2:</b> A 2D coordinate system with axes <math>f_1^{(1)}</math> and <math>f_2^{(1)}</math> shows the 'Objective Space'. A diamond-shaped feasible region is defined by constraints <math>g_1 \leq 0</math> and <math>g_2 \leq 0</math>. A point <math>x_0^{(2)}</math> is on the <math>f_2^{(1)}</math>-axis, and a point <math>x_1^{(2)}</math> is on the <math>f_1^{(1)}</math>-axis. A dashed line connects <math>x_0^{(1)}</math> to <math>x_0^{(2)}</math>, and another dashed line connects <math>x_1^{(1)}</math> to <math>x_1^{(2)}</math>. An 'Ideal-Point' is marked at the top-right corner of the feasible region. A horizontal line labeled 'Aspiration-Level' passes through the Ideal-Point, intersecting the feasible region at a point <math>Q</math>.</li> <li><b>Stage 3:</b> Similar to Stage 2, but the feasible region is shifted, indicating a change in the decision space due to re-allocation of limited resources.</li> </ul>	<ul style="list-style-type: none"> <li>Making-ideal-decisions-through-re-allocating-limited-resources..</li> </ul>

# **Sharing experiences for MOST project activities - Outline**

## **Part I**

### **What kind of MOST project?**

# What kind of MOST project?

- **General research project** (一般型研究計畫)  
「個別型計畫」、「整合型研究計畫(Integrated research project)」；一年期、多年期  
**New staff research project** (新進人員研究計畫) 「研究職務在五年以內或獲博士學位後五年以內之教學、研究人員」
- **Industry-University Cooperative Project** (產學合作型計畫)  
**One-year, multi-year** (一年期、多年期(最多三年))
- **Interdisciplinary integrated research project** (跨領域整合型研究計畫)  
**One-year, multi-year** (多年期)
- **National-type project** (國家型計畫，如能源國家型科技計畫(網站建置中)，網路通訊國家型科技計畫，防災國家型科技計畫等)

# **Sharing experiences for MOST project activities - Outline**

## **Part II**

### **How to find a good research topic?**

# **How to find a good research topic? (What topic?)**

- Macro (Focus on the big problem, interdisciplinary systems)  
vs.
- Micro (no one can write a big idea paper every time out)
- Theory vs./and Application

# **How to find a good research topic? (How to find the hot topics)**

- Hot topics are **very important problems** to **be existed our surround environment, also to be global problems**
- Which is called a hot topic? (Depending on areas, fields, different time and space, it is happen in **first priority need to solve problem**)
- Now these hot topics are not good method in traditional research methods (**Developing new methods**)

# **How to find a good research topic? (Where do ideas for new researches come from?)**

- **Reading the literature**
- **Contact with the real world problem**
- **Curiosity about things**
- **Publication Networking  
(Systematics)**
- **Teaching (The research integrated  
into teaching 將研究融入教學)**
- **Logic reasoning and thinking (new  
development)**

# **How to find a good research topic? (How to find a good research topic?)**

- Understand problems from experience, understand the reality (Working in real world, doing projects in real cases, work with Senior Colleagues or famous researchers first, 「求拜名師」)
- Read and familiar with literature (No free lunch)  
(Equip yourself with enough skills, 閱讀名師之名期刊論文或論著)
- Think globally, be innovative (curiosity), but please act locally (action in local story)
- Globalize yourself (Global vision/perspective)
- Following famous professor in taking course, discussions

# **How to find a good research topic?**

**(Topic focus on one or more of the following dimensions)**

- Define new problem domains for the field;
- Introduce/create innovative concepts or methods for using to problems-solving;
- Provide new insights into problems-solving;
- Develop new methodologies to approach known and new problems;
- Apply new powerful research methods in creative way to interesting application areas.

# **Sharing experiences for MOST project activities - Outline**

## **Part III**

**How to write the high-quality/good project proposal in writing skill?**

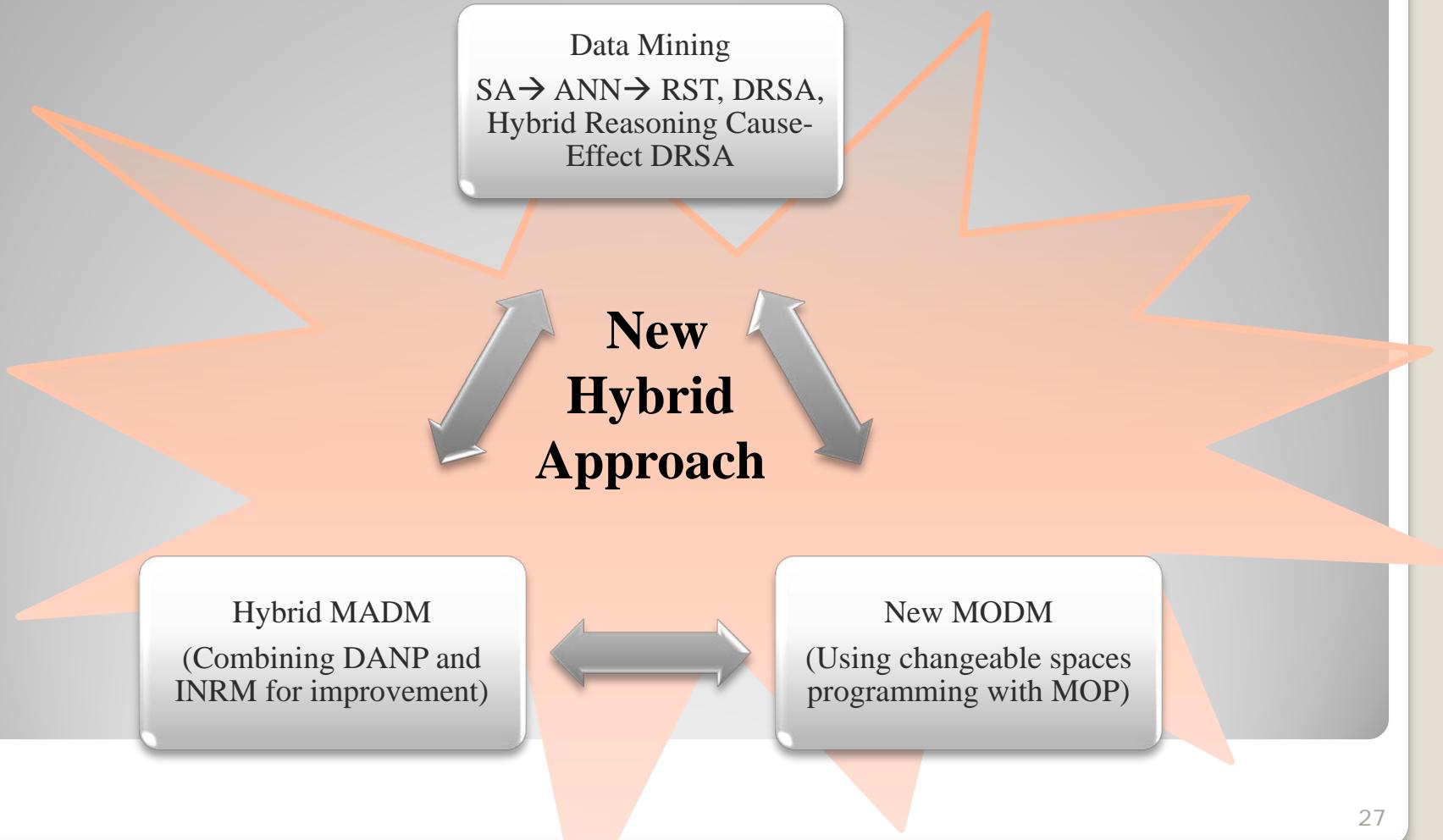
# **How to write the high-quality/good project proposal in writing skill?**

- 一、基本資料
- 二、申請補助經費
- 三、主要研究人力(「主持人」、「共同主持人」、「協同研究人員」及「博士後研究」等類別之順序分別填寫)
- 四、研究人力費
- 五、耗材及雜項費用
- 六、研究設備費
- 八、出席國際學術會議差旅費(注意會議名稱)  
(國外差旅費:七、赴國外或大陸地區移地研究差旅費；八、出席國際學術會議差旅費；九、國際合作研究計畫出國差旅費。十、管理費)

# How to write the high-quality/good project proposal in writing skill?

- **十一、研究計畫中英文摘要：**（一）計畫中文摘要（五百字以內）；（二）計畫英文摘要（五百字以內）】
- **十二、研究計畫內容：**（一）近五年之研究計畫內容與主要研究成果說明。（連續性計畫應同時檢附上年度研究進度報告）近五年內小弟之主要研究成果，著重於為解決傳統缺陷之創新與應用，如在：...
- **十二、研究計畫內容：**（二）研究計畫之背景及目的。請詳述本研究計畫之背景、目的、重要性及國內外有關本計畫之研究情況、重要參考文獻之評述等。本計畫如為整合型研究計畫之子計畫，請就以上各點分別說明與其他子計畫之相關性。（三）研究方法、進行步驟及執行進度。請分年列述：1.本計畫採用之研究方法與原因。2.預計可能遭遇之困難及解決途徑。3.重要儀器之配合使用情形。4.如為整合型研究計畫，請就以上各點分別說明與其他子計畫之相關性。5.如為須赴國外或大陸地區研究，請詳述其必要性以及預期成果等。（四）預期完成之工作項目、成果及績效。請分年列述：1.預期完成之工作項目。2.對於學術研究、國家發展及其他應用方面預期之貢獻。3.對於參與之工作人員，預期可獲之訓練。4.預期完成之研究成果及績效（如期刊論文、研討會論文、專書、技術報告、專利或技術移轉等質與量之預期績效）5.本計畫如為整合型研究計畫之子計畫，請就以上各點分別說明與其他子計畫之相關性。

# A new combined/hybrid approach for improving performance gaps



# How to write the high-quality/good project proposal in writing skill?

- 十三、近三年內執行之研究計畫  
(請務必填寫近三年所有研究計畫)

※國科會人文處近五年(95.8.1 至 100.7.31)專題計畫成果出版情形表

主持人：曾國雄

服務機關：開南大學(原工作於「交通大學」)

■ 近五年未曾執行本會專題研究計畫，請打■。

說明：1.99 年度計畫如仍在執行中請註明。

- 2.「會議論文集」其定義為會後編輯出版之論文集，此外之會議論文請勿列入。
- 3.出版情形將列為 101 年度專題計畫審查之重要參考資料，敬請詳實填寫。

■已出版（請填寫論文題目、期刊名稱、卷號、頁數、年份或專書(含會議論文集)名稱、頁數、年份、出版社）

# **Sharing experiences for MOST project activities - Outline**

## **Part IV**

### **Which criteria to review MOST project proposal?**

# Which criteria to review MOST project proposal?

- 科技部人文司(一般)專題研究計畫審查意見表

06-5702106 06-5702106				
處室編號：		條碼編號：		承辦人：
主持人：		服務機關：		
計畫名稱：				
主持人TEL：		主持人FAX：		
請參考人文司「審查參考原則」				

# Which criteria to review MOST project proposal?

## ● 審查人請注意：

### 一、請分項評分：

審查人請注意：

1. 審查意見之撰寫請力求具體、詳細，審查意見將提供申請人參考。
2. 審查總分未達 75 分者，不予補助；75 分以上者，始考慮補助。
3. 研究表現部分以計畫主持人為主，無需考慮共同主持人、協同研究人員。

審查重點 / 審查成績		評分↓ (0-100)	分項↓ 成績
計畫書內容 (佔 50%)	1. 研究主題之重要性或創新性、在學術或應用上之價值或影響。 2. 對國內外相關研究文獻之掌握及評述。 3. 計畫之合理性、研究方法與執行步驟之可行性。	84	
主持人研究表現 (佔 50%)	※近五年著作 (含本會近五年專題計畫成果出版情形)	80	

# **Which criteria to review MOST project proposal?**

- 二、審查意見及計畫內容修正之建議：(請依下列項目分別評述，審查意見將提供申請人參考)  
· (字數至少300字以上)  
**(一)計畫書內容評述及修正建議**
  - 1.研究主題之重要性或創新性、在學術或應用上之價值或影響
  - 2.對國內外相關研究文獻之掌握及評述
  - 3.計畫之合理性、研究方法與執行步驟之可行性

# Which criteria to review MOST project proposal?

## (二) 研究表現

1. 近五年著作

2. 五年以上著作（若有加分，務請敍明具體理由）

- 三、最近一期專題計畫研究成果報告之品質？（請務必填寫）

審查條件：(1)研究案、(2) 12/31 前上傳之報告、(3) 近 5 年，最近一次上傳之報告。

極優  優  良  可  差

請說明：

# Which criteria to review MOST project proposal?

- 四、本案如為多年期計畫，請審慎判斷其執行期限之必要性及合理性，並請務必說明理由。

本會鼓勵多年期計畫，對於研究表現良好的主持人及計畫品質良好之多年期計畫申請案，請多支持。

合理之執行期限為：

- 一年
- 二年
- 三年
- 四年
- 其他

請說明：(本計畫非多年期計畫)



# Which criteria to review MOST project proposal?

- 五、本案如有共同主持人，請審慎判斷其必要性並請務必說明理由。

全數必要  部分必要（請勾選必要之共同主持人）  不必要

共同主持人名單： ↗

請說明：（本計畫無共同主持人） ↗



A large, empty rectangular text input field with a dark gray border. To its right is a vertical scroll bar with a light gray track and a dark gray slider. At the bottom of the input field is a horizontal scrollbar with a light gray track and a dark gray slider. On the far left of the input field are two small, light gray square buttons with arrows pointing left and right respectively.

# Which criteria to review MOST project proposal?

- 本案如申請博士後研究人力，已有人選者，請審慎評估其參與計畫之重要性，如僅申請員額者，請判斷其必要性並請務必說明理由。

必要  不必要  其他

請說明：（本計畫無申請博士後研究人員）



# Which criteria to review MOST project proposal?

- 七、本案如為延續性計畫，截至102年12月31日止，該計畫是否已完成預定進度？請詳述之。

本案如非延續性計畫，請於審查意見欄內填寫「無」。

請說明： ↵



# Which criteria to review MOST project proposal?

- 八、本計畫經費編列是否合理？請詳述建議補助金額及項目。（如為多年期計畫，請建議各年補助金額及項目）

一、請分項評分：		評分↓ (0-100)	分項↓ 成績↓
審查重點 / 審查成績	1.研究主題之重要性或創新性、 計畫在學術或應用上之價值或影響+ 書內 2.對國內外相關研究文獻之掌握 容(佔及評述+ 50%) 3.計畫之合理性、研究方法與執 行步驟之可行性 +		
主持 人研 究表 現+ (佔 50%)	※近五年著 作+ (含本會近五 年專題計畫 成果出版情 形) +	著作之質與量、創 見、學術貢獻程度或 應用價值等 +	

五年以上代表著作  
(特殊項目，必要時才加分，請嚴格審查)

依該著作對學術之深遠影響程度酌予加分，**最多10分**，但研究表現總分之最高分數仍為**100分**

# Which criteria to review MOST project proposal?

項目	建議金額				說明
	第一年	第二年	第三年	第四年	
研究人力 費(如申請專任助理, 請判斷其必要性)	96,000				
服務耗材、物 品、圖書及雜項費 用	151,000				
國外學者來臺費用					
研究設備費					
國際合作與移地研究 差旅費(請判斷其必要性)					
出席國際學術會議 差旅費	本會政策支持「出席國際會議差旅費以在專題研究計畫下核定為原則」，對於核定通過之計畫將依本公司經費核定原則核定出席國際會議差旅費。				

# Which criteria to review MOST project proposal?

- 九、本案是否涉及下列實驗／研究而必須檢附研究倫理審查相關文件  
〔(一)之第1-4項須檢附研究倫理審查核准文件，(一)之第5項須檢附已送研究倫理審查證明文件〕？

是。(勾選「是」，則(一)、(二)題必填)

(一) 本案涉及：

1.  人體試驗/人體檢驗，請說明：  

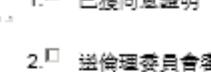

2.  人類胚胎/人類胚胎幹細胞，請說明：  

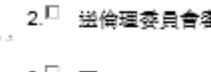

3.  基因重組實驗/基因轉譯田間試驗/第二級以上感染性生物材料試驗， 是 否  
請說明：  


4.  動物實驗，請說明：  


5.  人類研究，請說明 [\(詳閱人類研究之定義\)](#)  


(二) 本案是否已附研究倫理審查相關文件？

1.  已獲同意證明  


2.  送倫理委員會審查中  


3.  否  


否。

請參考「研究成果管考通報補充說明」。  
「本研究」是否已有嚴重損及公共利益之發現：



# Which criteria to review MOST project proposal?

請參考「研究成果管考通報補充說明」

「本研究」是否已有嚴重損及公共利益之發現：

- 是  否

+

暫存	審畢送出	暫存	審畢送出	取消
----	------	----	------	----

(請於 12:16 分之內執行暫存或審畢送出，以免您已填寫

# Which criteria to review MOST project proposal?

- 103年度工程司專題研究計畫(個別型計畫及整合型子計畫)審查意見表

(請於2週內審竣，謝謝！)			
申請人：			
處室編號：			
計畫名稱：			

# Which criteria to review MOST project proposal?

- 103年度工程司專題研究計畫(個別型計畫及整合型子計畫)審查意見表

## 102年度工程司專題計畫審查成績分佈(累積值)

1/評審前請先決定配分百分比，總分一百分，再參考審查項目予以評審。

計畫類別＼配分百分比＼審查項目	一、主持人部分		二、計畫部分 價值與意義/可行性
	40%	60%	
<input checked="" type="radio"/> 任職五年以上之一般研究人員	40%	60%	
<input type="radio"/> 任職五年以內之新進研究人員	20%	80%	

# Which criteria to review MOST project proposal?

- 審查項目：（請參考下列項目予以評審，避免以期刊論文數量作為衡量研究表現之唯一指標）
- 一、主持人部分：

一、主持人部分  
分：配分百分比  %  $75 \times 0.4 = 30$  分  
評分：

a. 最近一期專題計畫研究成果報告之品質？（計畫名稱：綠色供應鏈導入引發組織變革與績效影響之研究—以台灣資訊電子產業為例(II);計畫編號：982221E022003）。

優  良  中  尚可  差

# Which criteria to review MOST project proposal?

b. 主持人近五年最具代表性學理創新/期刊論文、書籍發表及被引用或技術突破之表現?

- ..  
 極優  優  佳  普通  尚可 ↗

c. 主持人近五年於產業發展/人才培育方面相關績效之表現?

- ..  
 極優  優  佳  普通  尚可 ↗

d. 主持人成果績效/執行能力? ↗

- 未列 ↗  極優  優  佳  普通  尚可 ↗

e. 共同主持人之必要性? ↗

- 未列 ↗  同意  部份同意,刪除   不同意  無共同主  
持人 ↗

說明: ↗

# Which criteria to review MOST project proposal?

## • 二、計畫書部分：

計畫之價值與意義、可行性：配分百分比

 %

評分：

- 具有學術或技術上之創新性     具有實務或應用     其他(可重複選項) +  
計畫書撰寫是否具體詳盡？研究方法及步驟之可行性？文獻收錄之充備性？對國內外該研究領域現況之瞭解程度？人力、任務編組及工作項目分配之合理性？計畫執行期限之合理性及預期成果之明確性？

說明：（請務必填寫）



# Which criteria to review MOST project proposal?

## 三、經費補助建議(請務必填寫)：

補助項目\執行年次	第一年	第二年	第三年
研究人力			
耗材、物品、圖書及雜項費			
國外學者來台費			
研究設備費			
執行國際合作與移地研究差旅費			
出席國際學術會議差旅費			
貴重儀器中心使用額度			

刪減理由說明：

- ◆ 是否推薦本計畫案預核
- ◆ 本計畫若涉及人體試驗/臨床試驗/動物實驗(須同時  
加附動物實驗倫理 3R 說明)等，須附相關核准或同意進行  
實驗文件

- 是(核定計畫三年  
/二年)  
 無  
 已附  
 寫禱  
涉及  相關證明  送文件

# Which criteria to review MOST project proposal?

- 四、對本計畫之綜合評述及建議：

(本項內容將提供計畫申請人自行查閱,請務必填寫並斟酌意見內容及用語,謝謝)

一、主持人部份 ↴



A rectangular form placeholder with a light gray background. It features a small navigation bar at the bottom left with arrows for navigating through the document. On the right side, there are three small icons: a double arrow pointing up and down, a magnifying glass, and a plus sign.

二、計畫書部份 ↴



A rectangular form placeholder with a light gray background. It features a small navigation bar at the bottom left with arrows for navigating through the document. On the right side, there are three small icons: a double arrow pointing up and down, a magnifying glass, and a plus sign.

三、整體綜合意見: ↴



A rectangular form placeholder with a light gray background. It features a small navigation bar at the bottom left with arrows for navigating through the document. On the right side, there are three small icons: a double arrow pointing up and down, a magnifying glass, and a plus sign.

# Which criteria to review MOST project proposal?

- 五、此建議內容，不便開放給予申請人，僅供本公司參考。

總分與推薦等第：

總分	91 以上	90~86	85~80	79~75	74~70	69 以下
	極優	優	佳	普通	尚可	不佳

# Which criteria to review MOST project proposal?

- ※ 下列審查項目若申請人有申請該項經費時，請惠予審查：
    - ◎ 執行國際合作與移地研究差旅費審查意見：

1、進行國際合作研究之必要性、可行性？與外國合作計畫間之異同分工項目及內容

④ 容是否適切？國合經費申請額度及執行期限之合理性？合作雙方智財權約定情形是否合理？

2. 移地研究對本計畫之重要性及影響程度？移地研究之研究機構、工作項目及內容是否適切？移地研究經費申請額度及執行期限之合理性？

3. 赴大陸地區移地研究案，請嚴加考量本案是否有洩漏科技機密、國家機密或安全維護之疑慮？（赴大陸地區移地研究請加審此項）

綜合說明(請務必填寫):

## (本計畫無國際合作及移地

# Which criteria to review MOST project proposal?

## ● ◎博士後研究人員參與計畫審查意見：

- |   |   |
|---|---|
| 1、本計畫中博士後研究參與之必要性？ ↗  | A.需要 ↗ B.不需要 C.其他                             |
| 2、博士後研究參與之研究項目是否與本計畫相關？ ↗   | A.相關 ↗ B.不相關 C.其他                             |
| 3、博士後研究參與本計畫之研究項目及工作份量是否適切？ ↗   | A.適切 ↗ B.尚可 ↗ C.其他                            |
| 4、博士後研究參與本計畫對該計畫之影響程度？ ↗  | A.具重要 影響不 大 ↗ C.其他                            |
| 5、計畫書所列博士後研究參與本計畫之工作績效評估準則是否恰當？ ↗   | A.恰當 ↗ B.尚可 ↗ C.其他                            |
| 6、本博士後研究申請人之專長與研究能力是否足以勝任相關研究工作？↓<br><br><span style="color:red;">(博士後研究有人選時需審查此項目)</span> ↗                    | A.勝任 ↗ B.有疑慮 C.其他                             |
| 7、本博士後研究申請人如為外籍人士，其參與研究對該計畫執行之影響程度如何？↓<br><br><span style="color:red;">(人選為外籍人士時需審查此項目)</span> ↗                | A.相當重 影響不 大 ↗ C.其他<br>要影響 ↗ 大 ↗               |
| 8、本案若將自大陸地區聘用博士後研究，請嚴加考量本案是否有洩漏科技機密、國家機密或安全維護之疑慮？若有則不宜推薦。<br><span style="color:red;">(人選來自大陸地區需審查此項目)</span> ↗ | A.無 ↗ B.有疑慮 C.其他                              |
| 9、綜合上述各項審查項目，是否推薦本申請案？ ↗  | A.極力推薦 ↗ B.推薦 ↗ C. <del>勉</del> 予推薦 ↗ D.不推薦 ↗ |

# Which criteria to review MOST project proposal?

申请人姓名	第1项	第2项	第3项	第4项	第5项	第6项	第7项	第8项	第9项 (推荐等级)
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0

# Which criteria to review MOST project proposal?

綜合說明（請務必填寫，如博士後研究為外籍或大陸地區人士，請就國內是否缺乏相關人才、其學術地位、經驗與貢獻是否適宜本研究工作、研究項目和工作份量迫切性、延攬之必要性等部份嚴加審查，並請詳細說明）：

第二章 中国古典文学名著



請參考「研究結果參考通報補充說明」

「本研究」是否已有嚴重損及公共利益之發現：

G 2 G 番



（因資訊安全關係，審查意見及成績之輸入時間設定為 50 分鐘，50 分鐘後系統將自動斷線，若操作時間會超過 50 分鐘時，建議先將審查意見備份至 Word 或記事本，以免失去已填寫的資料。）(E120)

# Two New Books, Gwo-Hshiung Tzeng

New Concepts and Trends of MCDM for Tomorrow in Solving Actual Problems

## Multiple Attribute Decision Making: Methods and Applications

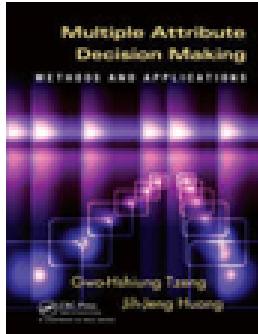
By Gwo-Hshiung Tzeng & Jih-Jeng Huang (2011), CRC Press, Taylor & Francis Group, A Chapman & Hall Book.

### Part I Concepts and Theory of MADM

Analytic Hierarchy Process; Analytic Network Process and Fuzzy Analytic Network Process; Simple Additive Weighting Method; TOPSIS and VIKOR; ELECTRE Method; PROMETHEE Method; Gray Relational Model; Fuzzy Integral Technique; Rough Sets; Structural Model; Interpretive Structural Modeling (ISM) Method; DEMATEL Method; Fuzzy Cognition Maps).

### Part II Applications of MADM

AHP: An Application; VIKOR Technique with Applications Based on DEMATEL and ANP; TOPSIS and VIKOR: An Application; ELECTRE: An Application; PROMETHEE: An Application; Fuzzy Integral and Gray Relation: An Application; Fuzzy Integral: An Application; Rough Sets: An Application.



## Fuzzy Multiple Objective Decision Making

By Gwo-Hshiung Tzeng & Jih-Jeng Huang (2013), CRC Press, Taylor & Francis Group, A Chapman & Hall Book.

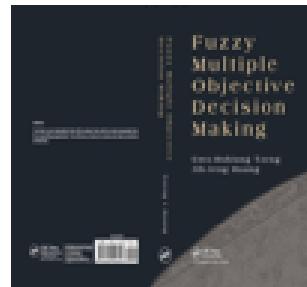
### Section I Concepts and Theory of Multi-Objective Decision Making

Multi-Objective Evolutionary Algorithms; Goal Programming; Compromise Solutions and TOPSIS; De Novo Programming and Changeable Parameters (including Decision Space and Objective Space, called Changeable Spaces); Multi-Stage Programming; Multi-Level Multi-Objective Programming; Data Envelopment Analysis.

### Section II Applications of Multi-Objective Decision Making

Motivation and Resource Allocation for Strategic Alliances; Choosing Best Alliance Partners and Allocating Optimal Alliance Resources

Using Fuzzy Multi-Objective Dummy Programming Model; Multi-Objective Planning for Supply Chain Production and Distribution Model; Bicycle Manufacturer; Fuzzy Interdependent Multi-Objective Programming; Novel Algorithm for Uncertain Portfolio Selection; Multi-objective Optimal Planning for Designing Relief Delivery Systems; Comparative Productivity Efficiency for Global Telecoms; Fuzzy Multiple Objective Programming in Interval Piecewise Regression Model.



Liu, James J.H. and Tzeng, G.H. (Corresponding author) (2012). Comments on "Multiple criteria decision making (MCDM) methods in economics: An overview", *Technological and Economic Development of Economy*, 18(4), 672-695.

**Abstract.** This paper offers comments on a previously published paper, titled "Multiple criteria decision making (MCDM) methods in economics: an overview," by Zavadskas and Turska (2011). The paper's authors made great efforts to summarize MCDM methods but may have failed to consider several important new concepts and trends in the MCDM field for solving actual problems. **First**, the traditional model assumes the criteria are independently and hierarchically structured; however, in reality, problems are often characterized by interdependent criteria and dimensions and may even exhibit feedback-like effects. **Second**, relatively good solutions from the existing alternatives are replaced by aspiration levels to fit today's competitive markets. **Third**, the emphasis in the field has shifted from ranking and selection when determining the most preferable approaches to performance improvement of existing methods. **Fourth**, information fusion techniques, including the fuzzy integral method, have been developed to aggregate the performances. **Finally**, the original fixed resources in multi-objective programming are divided such that both decision and objective spaces are changeable. In this paper, we add new concepts and provide comments that could be thought of as an attempt to complete the original paper.

## Basic New Concepts and Trends of Two New Books for Tomorrow

The basic concept of changeable spaces for achieving aspiration levels

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Editorial review

NEW CONCEPTS AND TRENDS OF MCDM FOR TOMORROW –  
IN HONOR OF FRESHMAN GWO-HSHIUNG TZENG  
ON THE OCCASION OF HIS 70TH BIRTHDAY

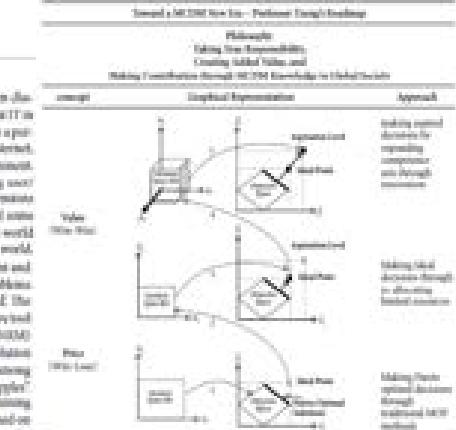
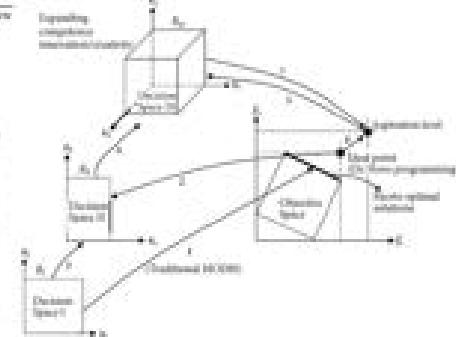
Author(s): J. H. LIOU

Institute of Industrial Engineering and Management, National Taipei University of Technology,  
No. 1, Sec. 3, Chung Hsiao East Road, Taipei, Taiwan

**Abstract.** This paper discusses several new concepts and trends in multiple criteria decision making (MCDM) for solving actual problems, as well as the basic concept of changeable spaces for achieving aspiration levels. The basic concept of changeable spaces is proposed to deal with the following three issues: (1) dealing with the changeable parameters in performance improvement, (2) dealing with the changeable resources, and (3) changeable decision space. It is shown that changeable spaces can be used to accommodate the three variables that decide value judgments in MCDM and their applications are discussed in the paper in terms of the basic concept of changeable spaces.

Keywords: MCDM, ranking and selection, TOPSIS, VIKOR, Fuzzy integral, Aspiration levels

References to this paper should be made as follows: LIOU, J. H. (2013). New concepts and trends of MCDM for tomorrow – in honor of Professor Gwo-Hshiung Tzeng on the occasion of his 70th birthday. *Technological and Economic Development of Economy* 19(2) 167-175.



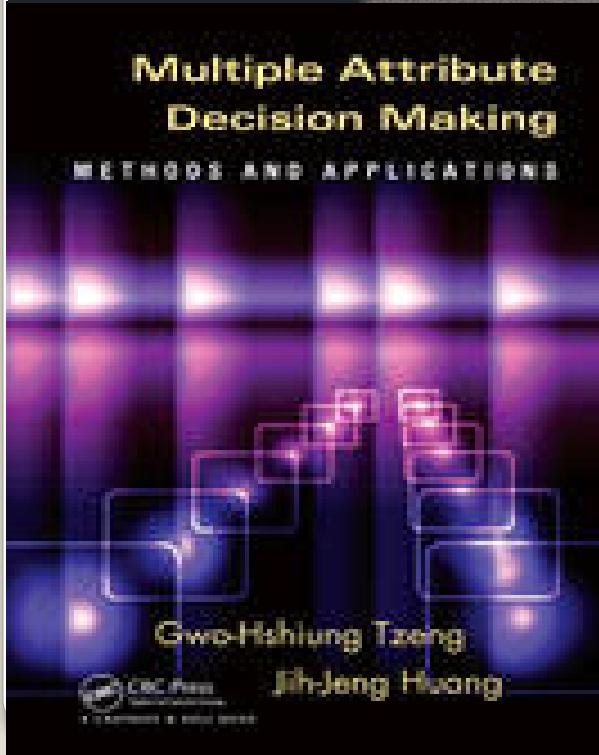
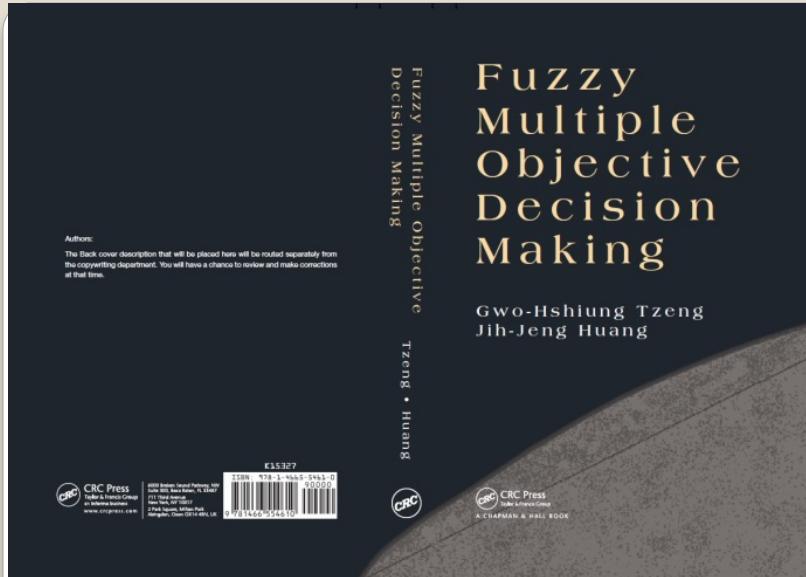
## Google Scholar

Gwo-Hshiung Tzeng

Distinguished Chair Professor

Research methods for problem-solving: Data Analysis (using sets, fuzzy set theory, rough set theory, etc.), statistics and multivariate analysis, evolutionary computation, soft computing, etc.), multiple criteria decision making (MCDM and MDM), and so on for applications in the real world problems

Citation Indicator	All	Since 2009	Citations to my articles
Citations	12945*	10227*	September 26, 2014: 2009 (1449 times), 2010 (1448 times), 2011 (1448 times), 2012 (1447 times), 2013 (1448 times), 2014 (1448 times),
H-Index	68*	52*	2015 (1447 times), 2016 (1448 times), 2017 (1448 times), 2018 (1448 times), 2019 (1448 times), 2020 (1448 times), 2021 (1448 times), 2022 (1448 times), 2023 (1448 times), 2024 (1448 times), 2025 (1448 times), 2026 (1448 times), 2027 (1448 times), 2028 (1448 times), 2029 (1448 times), 2030 (1448 times), 2031 (1448 times), 2032 (1448 times), 2033 (1448 times), 2034 (1448 times), 2035 (1448 times), 2036 (1448 times), 2037 (1448 times), 2038 (1448 times), 2039 (1448 times), 2040 (1448 times), 2041 (1448 times), 2042 (1448 times), 2043 (1448 times), 2044 (1448 times), 2045 (1448 times), 2046 (1448 times), 2047 (1448 times), 2048 (1448 times), 2049 (1448 times), 2050 (1448 times), 2051 (1448 times), 2052 (1448 times), 2053 (1448 times), 2054 (1448 times), 2055 (1448 times), 2056 (1448 times), 2057 (1448 times), 2058 (1448 times), 2059 (1448 times), 2060 (1448 times), 2061 (1448 times), 2062 (1448 times), 2063 (1448 times), 2064 (1448 times), 2065 (1448 times), 2066 (1448 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# The End

## Thank you attention

Email: [ghtzeng@gm.ntpu.edu.tw](mailto:ghtzeng@gm.ntpu.edu.tw)  
[ghtzeng@cc.nctu.edu.tw](mailto:ghtzeng@cc.nctu.edu.tw)

Gwo-Hshiung Tzeng (Website)

<http://ghtzeng.weebly.com/>

Google scholar

<http://scholar.google.com/citations?user=ZRXOrvQAAAAJ&hl=en>

<http://scholar.google.com/citations?hl=en&user=ZRXOrvQAAAAJ>

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