

中華民國主辦一九九八年第三十九屆 國際數學奧林匹亞競賽成果簡報

編輯部

一、引言

國際數學奧林匹亞 (International Mathematical Olympiad; 以下簡稱 IMO) 競賽活動是國際上為尚未進入大學院校就讀, 且年齡未滿 20 歲的全世界頂尖學生所舉辦的年度數學能力競試, 試題難度水準甚高, 受國際數學界的重視。IMO 自從 1959 年在羅馬尼亞開辦以來, 除 1980 年因故停辦過一次, 到 1997 年 8 月止已舉辦了 38 屆, 參賽的隊伍也由最初的七個歐洲國家增加到全球五大洲的 82 個國家。我國欣幸主辦第 39 屆 IMO, 計有 76 個國家參加, 學生 419 人, 領隊 76 人, 副領隊 73 人及觀察員 50 人出席。各國參賽隊伍自七月八日起陸續抵達, 競賽日期為七月十五日及十六日, 成績於七月十九日公布, 很遺憾的是大陸隊未能選派學生參加。我國參加競賽六位學生代表為雄中廖健溢、南一中賴信弘、武陵高中游志強、建中陳明揚、台師大附中王世豪及南一中劉育廷, 在競賽期間發揮團隊精神, 爭取參賽學生代表間的國際友誼, 以地利人和之優勢, 獲得頗耀眼的成績, 計獲三面金牌二面銀牌及一面銅牌, 並以 184 分之總分排名第五, 雙雙打破我國歷屆參加 IMO 之紀錄, 誠屬難能可貴。這六位學生同時各獲得宏基基金會頒贈一部 586 Acer 電腦, 並獲教育部補助歐洲四國 (英、德、荷、法) 參觀訪問十天, 增廣見識, 以達培育全方位的數理資優生, 可謂名利雙收。

我國首次參與此國際性活動係由中研院陳院士省身民國 79 年 11 月 2 日拜訪行政院, 建議我國應提昇數學水準, 選拔優秀高中學生參加世界性數學競賽。教育部依行政院指示, 請國立台灣師範大學陳昭地教授負責協調, 籌劃參加 1991 年亞太數學奧林匹亞競賽 (簡稱 APMO), 同時由劉豐哲教授協調組隊參與國際數學奧林匹亞競賽 (簡稱 IMO), 經 1991 年第 32 屆 (IMO) 競賽主辦國瑞典邀請以觀察員出席, 於 1992 年正式選拔學生參賽, 歷年來我國選手在 APMO、IMO 之參賽成績優異, 尤其在 1993 年參加土耳其主辦第 33 屆 IMO 時, 我國隊伍在 73 隊 412 位學生代表中榮獲總分排名第五名 (美國第 7 名、日本第 20 名)。國際數學奧林匹亞競賽大會基於參賽國之權利及義務, 早在數年前即表示亟望我國主辦此國際性之活動, 經聘請學者、專家、各相關部會研商我國舉辦之可行性 (大陸於 1990 年主辦), 由教育部、國科會會銜報請行政院同意, 在 1993 年爭取主辦 1998 年第 39 屆 IMO, 由於主辦 IMO 之國家已排到西元 2004 年, 而我國能爭取主辦 1998

年第 39 屆國際數學奧林匹亞競賽是我國歷屆選手締造佳績之結果。

目前國科會推動「迎向新千禧」系列活動之一就是大眾科學教育，在即將邁入二十一世紀，為了使數學能全民化、普及化、生活化、活潑化，讓全國人民皆能有機會體會數學之美、趣味及可親性之人文關懷的一面。此次為配合我國主辦 1998 年第三十九屆國際數學奧林匹亞競賽（IMO），除選拔少數菁英參加爭取國家榮譽外，亦希望社會大眾廣泛之參與，國科會與中華文化復興運動總會科學技術委員會共同主辦國內的數學奧林匹亞競賽一自三月開始的「1998 全國數學教育活動季」至七月止展開一系列數學教育競賽，自北而南，由上到下，讓全國民眾接觸生動活潑的數學教育活動、體會數學的樂趣與生活化。藉此提昇全民數學學習興趣及數學能力，讓數學回歸生活中，不再是一門遙不可及、深不可測的學科知識。

這次教育部、國科會主辦的 1998 第 39 屆 IMO 活動，除了政府行政單位的大力支持，還動員國內各高中、大學、數學會、中研院等學界的力量，此外，行政院觀光局及大同資訊企業股份有限公司等 18 個民間單位也提供相當多的資源，非常感謝大家熱烈的參與和贊助。

二、一九九八年國際數學奧林匹亞競賽時程表（7 月 8 日～7 月 21 日）

（見次頁）

三、開幕典禮程序表

1998 年第 39 屆國際數學奧林匹亞競賽開幕典禮程序表

主辦單位：教育部
行政院國家科學委員會

承辦單位：國立臺灣師範大學

地點：外貿協會台北國際會議中心大會堂

7 月 14 日

項目	程 序	備 註	時 間
1.	進場就位完畢		10:30
2.	播放台灣文化名勝短片 (Travel the Road to Success)	觀光局拍攝，8 分鐘	10:40
3.	管弦樂隊表演	台師大附中管弦樂團演出五首樂曲 (含台灣民謠)，30 分鐘	10:50~11:20
4.	開幕致詞	蕭院長萬長致詞	11:20~11:30
5.	(i) 主辦單位首長致詞	林部長清江、黃主委鎮台共同主持	11:30~11:40
	(ii) 籌備會代表致詞	台師大呂溪木校長	11:40~11:46
	(iii) 中華民國數學會理事長致詞	郭滄海理事長	11:46~11:52
	(iv) 1998 年第 39 屆 IMO 顧問委員會秘書 長致詞	98IMOAB 秘書長 Walter Mientka	11:52~11:58
6.	禮成	奏樂	12:00

一九九八年國際數學奧林匹亞競賽時程表

日期	星期	參加人員	時間	間行	程地	點	備註
08	三			IMOAB 接機			
09	四			領隊、觀察員接機	進駐 翡翠灣福華	中正機場	
10	五						
11	六	領隊、觀察員	全天	選題		翡翠福華	
12	日			副領隊、觀察員、學生接機	進駐台師大 理學院校區	中正機場	
13	一	領隊、觀察員	全天 下午	選題 區域性奧林匹亞試會議(APMO)		翡翠福華	12:00 學生報出刊
14	二	全體人員	10:30~12:30 下午	開幕典禮 自由活動	世貿國際會議中心大會堂 台師大理學院		
15	三	領隊、觀察員	9:00~10:30	學生問題解釋會議	台師大理學院國際會議廳		
		領隊、觀察員	10:30~	參觀活動	台師大理學院-北海岸-翡翠福華		
		參賽學生	9:00~13:30	第一天競賽	台師大理學院校區		12:00 學生報出刊
16	四	副領隊、觀察員、學生	下午、晚上	自由活動	台師大理學院		
		領隊、觀察員	9:00~10:30	學生問題解釋會議	台師大理學院國際會議廳		
		領隊、副領隊、觀察員	10:30~	參觀活動	台師大理學院-中正紀念堂- 總統府-仁愛福華		上午領隊及副領隊 分別由台師大理學 院校區及翡翠福華 遷至仁愛福華
16	四	參賽學生	9:00~13:30	第二天競賽	台師大理學院中正堂、圖書館一、三樓		
		學生、觀察員	下午 16:30~21:00	自由活動 參觀棒球賽	台師大理學院 南京東路棒球場		

一九九八年國際數學奧林匹亞競賽時程表 (續)

日 月	日 星 期	參 加 人 員 時 間	行 程 地 點	備 註	
					時 間
7 月	五 17	領隊、副領隊、觀察員	閱卷	仁愛福華	17:00 學生報出刊
		學生、觀察員	台中參觀	台師大理學院(仁愛福華)- 台中自然科學博物館、台中福華用餐(晚 餐)-台師大理學院	
7 月	六 18	領隊、副領隊、觀察員	閱卷	仁愛福華	
		學生、觀察員	上午、下午	台師大理學院-故宮-天文館- 台師大理學院	
7 月	日 19	領隊、副領隊、觀察員	上午	北部近郊參觀旅遊	台師大理學院-故宮-仁愛福華
			下午	自由活動	台師大理學院
			16:00~	成績評定會議	台師大理學院國際會議廳
			22:00~24:00	雞尾酒會	福華長春店
			上午	北部近郊參觀旅遊	台師大理學院-資訊科學展示中心- 中正紀念堂-台師大理學院
7 月	一 20	學生、觀察員	下午	自由活動	台師大理學院
			晚上	晚會	台師大理學院中正堂
			上午	自由活動	台師大理學院
			2:30~5:30	閉幕典禮	國父紀念館大會堂
			19:00~22:00	晚宴	仁愛福華
7 月	二 21	全體人員	送機	中正機場	12:00 學生報出刊

四、閉幕典禮程序表

1998 年第 39 屆國際數學奧林匹亞競賽閉幕典禮程序表

主辦單位： 教育部
 行政院國家科學委員會
 承辦單位： 國立臺灣師範大學
 地 點： 國父紀念館大會堂

7 月 20 日

項目	程 序	備 註	時 間
1.	進場就位完畢		14:30
2.	播放 98 IMO 競賽期間紀錄短片	15 分鐘	14:40~14:55
3.	復興劇校第一階段表演	15 分鐘	14:55~15:10
4.	主辦單位首長致詞及頒贈感謝狀	林部長清江、黃主委鎮台 共同主持	15:10~15:30
5.	第一階段頒獎		
	(i) 宣布得獎標準	評判委員會主席全任重教授致詞	15:30~15:35
	(ii) 頒發金牌、銀牌獎	林部長及黃主委等 17 人	15:35~16:07
6.	復興劇校第二階段表演		16:10~16:25
7.	第二階段頒獎		
	(i) 頒銅牌獎	卓司長等 15 人	16:25~16:55
	(ii) 宣布榮譽獎名單		16:55~17:00
8.	頒發本屆我國參賽學生特別獎	宏基基金會代表頒發	17:00~17:05
9.	閉幕致詞		
	(i) 98 IMO 顧委員會主席代表致詞	98 IMOAB 主席 Claude Deschamps	17:05~17:13
	(ii) 我國本屆參賽代表團團長致謝詞	呂校長	17:13~17:18
	(iii) 99 IMO 主辦國致歡迎詞	羅馬尼亞代表	17:18~17:23
10.	禮成		17:25

五、參賽國得獎成績名次統計表

1998 年第 39 屆 IMO 各國成績統計表

名次	國 名	總 分	金 牌	銀 牌	銅 牌	參賽人數
1	IRI 伊朗	211	5	1	0	6
2	BUL 保加利亞	195	3	3	0	6
3	HUN 匈牙利	186	4	2	0	6
3	USA 美國	186	3	3	0	6
5	ROC 中華民國	184	3	2	1	6
6	RUS 俄羅斯	175	2	3	1	6
7	IND 印度	174	3	3	0	6
8	UKR 烏克蘭	166	1	3	2	6
9	VIE 越南	158	1	3	2	6
10	YUG 南斯拉夫	156	0	5	0	6
11	ROM 羅馬尼亞	155	3	0	2	6
12	ROK 南韓	154	2	2	2	6

中華民國主辦一九九八年第三十九屆國際數學奧林匹亞競賽成果簡報

1998年第39屆IMO各國成績統計表(續)

名次	國名	總分	金牌	銀牌	銅牌	參賽人數
13	AUS 澳大利亞	146	0	4	2	6
14	JPN 日本	139	1	1	3	6
15	CZE 捷克	135	0	3	3	6
16	FRG 德國	129	0	3	2	6
17	TUR 土耳其	122	0	2	4	6
17	UNK 英國	122	0	1	4	6
19	BLR 白俄羅斯	118	0	1	4	6
20	CAN 加拿大	113	1	1	2	6
21	POL 波蘭	112	1	1	1	6
22	CRO 克羅埃西亞	110	0	0	5	6
22	SIN 新加坡	110	0	1	3	6
24	ISA 以色列	104	0	0	5	6
25	HKG 香港	102	0	1	3	6
26	ARM 亞美尼亞	100	0	2	2	6
26	FRA 法國	100	1	0	2	6
28	RSA 南非	98	0	1	2	6
29	ARG 阿根廷	97	1	0	3	6
30	BRA 巴西	91	1	0	1	6
30	MON 蒙古	91	0	2	2	6
32	GRE 希臘	90	0	2	1	6
33	BIH 波士尼亞	88	0	1	2	6
33	SVK 斯洛伐克	88	0	1	4	6
35	KAZ 哈薩克	81	0	0	2	6
36	GEO 喬治亞共和國	78	0	0	3	6
37	LVA 拉脫維亞	74	0	1	3	6
38	ITA 義大利	72	0	0	3	6
39	BEL 比利時	71	0	1	1	6
40	MKD 馬其頓	69	0	0	1	6
41	COL 哥倫比亞	66	1	0	0	6
42	THA 泰國	65	0	0	2	6
43	EST 愛沙尼亞	63	0	1	1	6
44	MEX 墨西哥	62	0	1	0	6
44	NET 荷蘭	62	0	1	0	6
46	PER 秘魯	60	0	2	0	3
47	SWE 瑞典	58	0	0	2	6
48	AUT 奧地利	57	0	0	2	6
49	NZL 紐西蘭	50	0	0	2	6
50	MDA 摩達維亞	45	0	1	1	2
51	SLO 斯洛尼亞	44	0	0	1	6
52	ICE 冰島	42	0	0	0	6
52	MAR 摩洛哥	42	0	0	0	6
54	AZE 亞塞拜然	41	0	0	1	5

1998 年第 39 屆 IMO 各國成績統計表 (續)

名次	國名	總分	金牌	銀牌	銅牌	參賽人數
55	LIT 立陶宛	40	0	0	1	6
56	CYP 塞浦路斯	39	0	0	1	4
57	SUI 瑞士	37	0	0	0	6
58	ESP 西班牙	36	0	0	1	6
58	IRL 愛爾蘭	36	0	0	1	6
60	TRI 千里達	36	0	0	1	6
61	NOR 挪威	33	0	0	0	6
62	MAS 馬來西亞	32	0	0	0	6
63	FIN 芬蘭	30	0	0	0	6
64	MAC 澳門	29	0	0	0	5
65	LUX 盧森堡	25	0	0	1	2
66	DEN 丹麥	21	0	0	0	6
67	CUB 古巴	19	0	0	1	1
68	INA 印尼	16	0	0	0	5
69	KGZ 吉爾吉斯	14	0	0	0	5
70	PHI 菲律賓	11	0	0	0	4
70	URU 烏拉圭	11	0	0	0	6
72	PAR 巴拉圭	6	0	0	0	5
72	POR 葡萄牙	6	0	0	0	6
74	SRL 斯里蘭卡	5	0	0	0	1
75	VEN 委內瑞拉	1	0	0	0	2
76	KUW 科威特	0	0	0	0	3

六、本屆主辦特色與績效

1. 本屆 IMO 為參賽隊數較多的一屆，在全部已辦 39 屆中，僅次於上一屆。
2. 在近五屆中，競賽日程活動期間最短的一屆，分別比過去少了 1~2 天，顯示本屆數學界組成的試題組及承辦單位之工作績效。
3. 最具效率的一屆，諸如平均 2 天一次的學生報、資料成績冊的編輯、獎牌獎狀之印發，大會期間的光碟片及活動紀錄短片均如期完成印發，而且品質均超越歷屆水準，讓參賽者滿載而歸，留下永恆難忘的回憶。
4. 領隊膳宿條件最佳的一屆，學生副領隊飲食條件也是最佳的一屆，頗獲好評。
5. 開、閉幕典禮最隆重的一屆，開幕典禮除了安排台師大附中管弦樂團演出外，更有行政院蕭院長親臨致詞，閉幕典禮則有復興劇校特技團演出，技術精湛，驚險萬分，頗獲好評。
6. 開、閉幕典禮預定程序表最準時進行的一屆，開閉幕均在預定排演時間進行，掌控得宜。

7. 最令人珍重再見的惜別晚會及最好晚宴，讓與會各國代表回味無窮。
8. 我國六位參賽代表得獎牌數及排名次雙雙突破我國應屆參賽記錄，頗獲參賽國之認同與喝采，並獲國內各大媒體之廣泛報導，深獲全國各界之讚賞。

七、開閉幕典禮之書面致詞

本屆計有行政院蕭院長、教育部林部長、國科會黃主委、台師大呂校長、中華民國數學學會郭理事長、IMO 顧問委員會主席、秘書長、及明年 1999 年主辦羅馬尼亞代表。於開閉幕典禮中致詞，茲將其書面致詞內容分別列出，以嚮讀者。

(一) 蕭院長開幕典禮致詞內容

Distinguished guests, ladies and gentlemen:

It gives me great pleasure to attend the opening ceremony of the 1998-International Mathematical Olympiad. On behalf of the government of the Republic of China and also myself, I would first extend the warm welcome to all the distinguished guests and especially the many talented young mathematicians here.

More than 25 hundred years ago, Confucius listed mathematics among the six basic subjects for education. While Chinese is known as a people with rich heritage in arts and literature, the contributions of some early mathematicians in ancient China have actually helped lay solid foundations for astronomical studies. Today, we all clearly believe that mathematics is the foundation of all natural sciences and mathematics education must be enhanced in our curriculum on all levels of schools. For the past several years, we have been an active faithful member of the International Mathematical Olympiad. The experience that our teachers and students acquired through participating in IMO events has indeed upgraded the standard of mathematics studies in this country, and also promoted the development of studies in other sciences. Now we feel it is a great honor of ours to host the event this year in Taiwan and provide our service to our international friends.

An organization like IMO is most significant and valuable in that it offers the opportunity for interaction among the most outstanding young scholars. The development of civilization and science used to rely on the brilliant discoveries or inventions made by some talented individuals. Without a convenient communication system, the diffusion of the knowledge was slow and those great minds usually had to exercise separately repeating the process of inventing the wheels. You may have known that, while Pythagoras of Samos was credited with the discovery of the Pythagorean theorem, a Chinese mathematician Shang Kao (商高) had similar findings several decades earlier. This also divert my thinking to the case of the development of movable-type printing by Johann Gutenberg in Europe in the 5th century, while a Chinese technician Pi Sheng (畢昇) had a similar design some 400 years before that. We cannot but wonder what would have happened if those early scholars had the chance to exchange their studies at the first place. Now, with the help of advanced communication network, especially the Internet, researchers can join with each other in cross-national teams to undertake exploration. And we are certain that advances in academic development will be exponentially accelerated. The event of IMO helps gather the most talented young people together to exercise their minds in the unlimited width and depth of mathematics. It is in this spirit that we believe future development of mathematics as well as other sciences will carry on.

Once again, I would welcome all the guests and participants to Taipei. May you all have a very pleasant stay here. I wish the best success for this event and also the best of health and performance to all the distinguished guests and participants.

Thank you very much.

(二) 林部長開幕典禮致詞內容

It gives me great pleasure to attend the opening ceremony of the 1998-IMO and meet with all the most outstanding young mathematicians here.

The unbounded talent and vigorous energy of the youths is always the hope of a country in promoting civilization economic growth, and social progress. And the utmost goal of education, as we believe, is to liberate the potentials of all the citizens so that everyone has the chance to exercise his or her talent to the full. It is with this belief that the ROC government has always stressed the importance of education on all levels. I feel pleased to report to you with the latest statistics. The net enrollment rates in Taiwan as of 1997 have reached 99.02 percent in elementary schools, 89.57 percent in secondary schools, and 29.07 percent in colleges and universities. And the gross enrollment rates are, of course, even higher.

While most people correctly attribute a large share of the credit of the successful economic and democratic development of the Republic of China to the investment on education, the high enrollment rates are indeed just a part of the key to the success. This country has little natural resources and nearly the highest population density in the world. It is the quality in education, and not just the quantity, that has fostered a sound middle class economy, which has been the major force in maintaining a stable society while seeking rapid economic growth. We are also proud to see that many outstanding scholars and scientists nurtured through this system have attained remarkable success and made great contributions in various fields of studies.

The International Mathematical Olympiad is the gathering of the most talented young people in pursuit of excellence. With the blessing of your giftedness, you bear the hope of your families and your countries. And thinking of the possibly equal talent of many young people in many corners of the world that has not been able to develop due to war, poverty, or whatever reason, you should also be thankful that you are lucky to have your talent recognized and to enjoy the chance to have it fully developed.

This event of IMO is the summit, in which you will meet with the most gifted young minds just like yourselves. You will have the chance to face unprecedented challenges that prove your potentials even beyond your own expectation. And you will meet fellow contestants whose ideas may give you the inspirations for even higher level of endeavor in the future. While you are envied by millions of young people around the world for your talent and your chance to demonstrate that talent, you should certainly make best use of this occasion to learn and to excel.

I wish you all the best of luck in the competition and also in the future exploration in mathematics. Thank you.

(三) 黃主委開幕典禮致詞內容

Allow me to first extend my warmest welcome to all of you to Taipei to participate in the 39th International Mathematical Olympiad.

The International Mathematical Olympiad (IMO) has been a most prestigious international mathematics organization. Since we first participated in the 1991 Asian Pacific Mathematical Olympiad (APMO) in 1991 and the IMO in 1992, the Republic of China has constantly sent our delegates to attend each IMO and APMO event. We truly admire the contribution made by IMO members in identifying and nurturing gifted mathematics students and in fostering the experience of enhancing mathematics education. As a faithful member of the organization, we therefore decided to apply to host the IMO event this year as a way to partly fulfill our obligation to the international mathematics community.

After the application to host the 1998-IMO in Taipei was approved, the National Science Council has worked closely with the Ministry of Education, National Taiwan Normal University, the Academia Sinica, the ROC Mathematics Society, and a host of educational institutions as well as many private

enterprises to prepare for the event. We are also grateful to the members of the IMO Advisory Board for their kind support and experience shared during the several years of our preparation. It is really due to the joint effort of many that we can now all gather here for the opening of the 1998-IMO.

This is the annual gathering of the world's most outstanding and promising young mathematicians. I sincerely believe your presence together is an invaluable opportunity of interaction that sparkles more inspirations in our unceasing effort of mathematics research. I also hope that, due to your warm participation, the event this year can be a success that leads to closer cooperation and exchange of young mathematicians as well as mathematics educators.

On behalf of the National Science Council and also the Directors Committee of the 98-IMO, I would wish all the participants the best performance in the event and also wish the 98-IMO a big success.

Thank you very much.

(四) 呂校長開幕典禮致詞內容

On behalf of National Taiwan Normal University and myself, I have the pleasure to extend the warm welcome to all of you to participate in the 39th International Mathematical Olympiad.

Mathematics is the foundation of all sciences and technologies. In an era of information revolution, while we are amazed by the many technological advances that keep emerging around us almost every day, we may easily admire the many talented pioneering scholars who have devoted all their wisdom and energy to the study of mathematics. But far more important than being a cornerstone of many pragmatic technologies, the study of mathematics is in itself an enchanting experience of searching for truth and the exploring a great mystery. As educators, we also have little dispute that the study of mathematics is the best training to nurture the critical thinking and problem solving abilities in our youths.

The International Mathematical Olympiad has been held in different countries around the world and has been a great event in discovering talented young minds for the world of mathematics. As a mathematician and mathematics teacher myself, I feel most honored and delighted that we at National Taiwan Normal University have the opportunity to host the 39th annual event in Taipei. I believe this is the best opportunity for the most outstanding mathematics teachers and students of the world to demonstrate and share their expertise with each other. And I also hope you can all experience the best side of the Chinese culture and hospitality during your stay in Taiwan.

Allow me to extend my very best wishes to all the participants and for the best success of the event this year.

Hsi-muh Leu, Ph.D.

President, National Taiwan Normal University

Professor of Mathematics

(五) 郭理事長開幕典禮致詞內容

On behalf of the Mathematical Society of ROC, I would like to extend my warm hearted welcome to our distinguished guests and young participants in the 39th International Mathematical Olympiad.

Mathematics has shown its indispensability to the development of science and technology. While it deduces elusive natural phenomena and sophisticated techniques into concise and precise mathematical formulations, few people may appreciate its intrinsic distinction and elegance from disciplinary point of view. I believe that IMO attempts to reflect the joy as well as the challenge arising from such a discipline to young students.

On the other hand, mathematical ideas are often stimulated and innovated by mutual influences, the Mathematical Society of ROC has constantly held bilateral conferences with mathematicians from many countries. Likewise, the IMO Organization of ROC has send delegates to participate in IMO every year since

1992. Most delegates felt enlightened by the IMO activities and also enjoyed the cultural ambiance and hospitality from the host countries. Such experiences made them proud of being members of the IMO family. I regard it is most significant and honorable that Taiwan contributes her part to continue IMO's tradition by hosting the 39th IMO for young mathematical talents from around the world.

I hope that all of you will enjoy the vivid aspects and amicable atmosphere of both the land and the people here in Taiwan. Moreover, this IMO experience will be memorable and invaluable to your career.

Tsang-Hai Kuo, Ph.D.

President of the Mathematical Society

(六) IMO 顧問委員會秘書長 Walter Mleritha 開幕典禮致詞內容

Address Presented On July 14, 1998 At The Opening Ceremonies

At The 39th IMO Held In Taipei, Taiwan

Premier Siew, Distinguished Officials, Dean Jau-D Chen, Dr. Ching-Jian Lin, Dr. Jenn-tai Hwang, Dr. His-muh Leu and Dr. Tsang-Hai Kuo, special guests and IMO 98 participants, before I begin my presentation let us recognize the wonderful performance of the Youth Symphony Orchestra of the Affiliated Senior High School of National Taiwan Normal University and its distinguished conductor Ms. Shu-Te Lee.

I was especially honored to have been asked by Dean Jau-D Chen to speak at these Opening Ceremonies on behalf of the members of the IMO Advisory Board, the Leaders, Deputies and the participants from 76 countries. I am especially honored to follow the excellent address of Premier Siew.

The support given to IMO 98 by the Government of Taiwan, and the distinguished persons who offered their greeting is indeed indicative of the significance of the role of mathematics in Taiwan. The IMO program established by Dean Chen and his organizers including over 300 faculty and assistants will clearly fulfill the aims of the IMO that include:

To discover, encourage and challenge mathematically gifted young people in all countries;

To foster friendly relations between mathematicians of all countries;

To create opportunities for the exchange of information on school syllabuses and practice throughout the world.

Contestants, the memory of your participation in this historical event will be lasting. Cherish it! Share It!

Please look to your left and to your right. You will see new friends from the world. You will meet and develop new lasting friendships during the days of the competition.

In closing we all know that you will perform to the best of your ability. Regardless of the final outcome, whether or not you receive a gold, silver or bronze medal, the fact that you are here already means that you are a winner.

On behalf of the IMO participants, all of the teachers in the world who have contributed to the success of the contestants, I express my appreciation to Premier Siew, the Government of Taiwan, Dean Chen, President Leu, Dr. Hwang, the IMO mathematics faculty, IMO staff members and contributors for hosting the 39th IMO.

Thank you for your hospitality. Chi chi neider how ee! Chi chi neider how ee! Chi chi neider how ee!

Let the competition begin
Walter E. Mientka, Secretary
IMO Advisory Board
July 14, 1998

(七) 林部長閉幕典禮致詞內容

In the past 10 days, you have all experienced perhaps the so-far most exciting event in your life---to be engaged in a competition with the other top students of the world on an activity that you are all blessed with invaluable asset---mathematics. This is the World Cup or the Wimbledon Championship of mathematics. In the past few days, some of you may have done better than others. But I would congratulate all of you. For those who have done better than others, however large or small the margins may be, I would congratulate you on your success. For all the others, I would also congratulate you, because the simple fact that you are here clearly indicates that you are tops. And as long as you have done your best in the test and grasped the chance to learn, you are the winner.

The Republic of China is experiencing a rapid process of educational reform right now. In doing so, our goal is to pursue excellence and equality of education at the same time. While we do try to reduce the workload of studies on average children in elementary schools, we have not neglected the importance of high quality education for the gifted students. In many schools we have the gifted education programs to provide the students with adequate education. There are also many systems developed to allow gifted students to move up the grades faster. The hosting of this IMO is also a substantial step to enhance the competence of math gifted students.

Now, as we are near the end of this event, I hope you all find that this event is a fruitful and rewarding experience. Besides the academic growth, I do hope that you have also established very good friendship with youngsters from different parts of the world. And I also hope you have taken the chance to visit some interesting spots in this country and enjoyed the hospitality of the Chinese people.

Wherever you are from and whatever harvest you may have gained, I wish all of you a safe trip home with many happy memories, and I also wish you even great success in exploring the wonders of the world of mathematics.

Thank you very much.

(八) 黃主委閉幕典禮致詞內容

It gives me great pleasure to make this address at the closing ceremony of the 39th International Mathematical Olympiad.

As far as I can remember, among all the programs and events we have hosted, this may be one that has participants from most countries. It is a summit meeting of the most promising young mathematicians of the world and I believe every one of us is proud that we have been a part of it.

Now we can say we are at a perfect closure of this significant event. The great success that has been achieved in the planning and implementation of the programs should be credited to many people and organization. On behalf of the National Science Council, a joint sponsor of this event, I would like to extend our sincere gratitude to a lot of organizations and individuals.

We are most grateful to the IMO members who have voted to have the Republic of China (Taiwan) host the event of 1998. That was the beginning of all of this. For the planning and preparation for this large-scaled project, we must also thank the IMO Advisory Board for their invaluable instruction and suggestions, which can be gained from nowhere else. We are also grateful to the Ministry of Education, National Taiwan Normal University, the Academia Sinica, and the ROC Mathematics Society, who have been working closely with us to make all this come true. We are truly indebted to many private organizations for their generous sponsorship either financially or in providing services. Last but not the least, we should thank all the delegates, especially the young contestants, from various countries. It is their outstanding performance that has made this event a truly remarkable memory to all of us.

Allow me to congratulate everyone here on the success of this event and I wish we will have more

opportunities like this to jointly pursue excellence in science.

Thank you very much.

(九) IMO 顧問委員會主席 Claude Deschamps 閉幕典禮致詞內容

Dear Minister of Education, Doctor LIN

Mister Chairman of National Science Council, Doctor HUANG

Dear guests, dear colleagues, dear contestants.

The thirty ninth International Mathematical Olympiad is going to the end ; it is clear to every body that it as been a successful one.

From the mathematical point of view it was excellent. The Problems Selecting Committee had a very high level and has submitted to the Jury a list of very good problems ; the work of the Jury has contributed to the final choice of interesting problems in various topics. These problems were hard but some are wonderful pieces of mathematics!

Contestants, you have taken part in a beautiful competition!

This competition is now over but do not forget that you are the future of your countries ; you represent, by your excellence, to morrow scientists. I want to say to you : presearve the relations ships that you have started here, improve friendship which is the best way to insure a serein world.

Finally my last remarks concern the Olympiads. Each year a country takes the responsibility of organising this event. During many years and especially during these last two weeks several men and women worked hard to give us this successful Olympiad. On behalf of all participants I want to warmly thank Republic of China for hosting this thirty ninth Olympiad.

Thank you Taiwan for this wonderful Olympiad

Cheche Taiwan te dje tchin cuan tai.

Best regards

Claude Deschamps

(十) 羅馬尼亞代表閉幕典禮致詞內容

Dear friends, students, leaders and deputy leaders.

Thirty-nine years ago, in 1959, my country has invited six other countries to compete with a team of 8 high-school students each in an outstanding contest in elementary mathematics. Since when, only local or national competition shave been organized in only few countries.

Then, it was not only an idea; the invitation became complete by concrete propositions about how such a competition can be create and how it could be manage. The initiators had of course good ideas. Following them this kind of competition was born. It grew and grew, year after year, with the contribution of all participating countries.

I especially mention the contribution of the host countries that constantly looked for new ideas to perfect the rules. I also mention the contribution of those countries which during the years proposed problems such that the level of mathematical education in many countries was positively influenced by the spirit the IMO's.

Now, 40 years later, I officially invite 12 times more countries to come once again in Romania, to compete in Mathematics, to develop friendship relations and visit us. To all of you, WELLCOME in ROMANIA.

Mircea Bechenau