

出國報告（出國類別：國際會議）

# 參加第五屆單子葉植物比較生物學 國際研討會之我見

服務機關：行政院農業委員會特有生物研究保育中心

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出國期間：102年7月6日至7月16日

報告日期：102年10月7日

## 摘要（200-300 字）

每 5 年 1 屆的單子葉植物國際研討會，是全世界關於單子葉植物最重要之學術活動，第五屆單子葉植物比較生物學國際研討會，於 2013 年 7 月 7-13 日於美國紐約植物園召開，參加本研討會之目標是與全世界相關學者專家進行交流，並建立聯繫及合作管道。紐約植物園是全球少數具有資源、收藏及專業，可以開發所需要的資訊，以了解植物的演化關係並經營管理植物多樣性的少數機構之一。2006 年 5 月開幕的輝瑞植物研究實驗室，由著名的輝瑞藥廠出資設立，是紐約植物園重要的研究機構，研究重點為植物基因組學及分子系統學。參與本次研討會有下列心得：（一）單子葉植物除了在植物研究的特殊價值外，也有極高的經濟價值，加強單子葉植物的保育及種源蒐集，可提升學術研究水平，也是未來人類糧食安全的基礎；（二）公私部門協力，進行學術研究或者是自然保育，在歐美國家是行之有年，但在我國就比較缺乏，因此未來應加強遊說並鼓勵民間企業或非營利組織，加入促進學術研究及自然保育；（三）在歐美先進國家，跨國的學術研究十分普遍，對岸中國大陸近年來積極參與歐美研究團隊，如此得以加入主流研究議題，我國學界也應積極參與。

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# 本 文

## 一、目的：

### (一) 第五屆單子葉植物比較生物學國際研討會 (Monocot V) 歷史沿革：

第五屆單子葉植物比較生物學國際研討會 (整併第 6 屆禾本科植物系統分類學及演化國際研討會)，於 2013 年 7 月 7-13 日於美國紐約植物園及鄰近之 Fordham 大學召開。人類對單子葉植物的認識及了解，是奠基於 Dr. Rolf Dahlgren (1932~1987) 的研究成果，他過世後，由英國皇家植物園邱園 (Royal Botanical Garden, Kew) 於 1993 年開始，舉辦第一屆單子葉植物國際研討會，第二至第四屆分別是 1998 年於澳洲雪梨新南威爾斯大學 (University of New South Wales)，2003 年於美國洛杉磯聖塔安納植物園 (Rancho Santa Ana Botanic Garden)，2008 年於丹麥哥本哈根大學 (Copenhagen University) 舉辦。

### (二) 預期目標：

每 5 年 1 屆的單子葉植物研討會，是全世界關於單子葉及禾本科植物最重要之學術活動，因個人研究領域是禾本科植物的系統分類學研究，參加本研討會可與全世界相關學者專家進行交流，並建立聯繫及合作管道。

## 二、過程

### (一) 7 月 6 日：

因隔日航班起飛時機為早上 09:10，最遲 07:10 得抵達機場報到，因此提前一日先行前往機場附近投宿。

### (二) 7 月 7 日：

搭乘的是達美航空 DL276 航班，早上 09:10 從桃園機場起飛，13:40 先到東京成田機場，轉搭達美航空 DL172 航班，15:10 起飛。因時差關

係，抵達紐約甘迺迪機場時間仍是 7 日的 14:55 分。因我國現今入境美國免簽證，僅需事先線上申請，因此很快就通關入境。

向站務人員詢問，購買了紐約的 MetroCard，功能及使用方式跟臺



灣的悠游卡一樣，就搭地鐵前往布朗克斯區

(Bronx)，再徒步至

Fordham University 報

到。本次研討會雖由紐約

植物園主辦，但是會議場

地都在旁邊的 Fordham

University，因此先到該大學報到。

(三) 7 月 8 日：

08:30 研討會開幕，由 Fordham University 校長 Mr. Joseph M.



McShane 致歡迎辭，隨

後由英國皇家植物園

邱園 (Royal Botanical

Garden, Kew) 的 Dr.

Paula Rudall 做開幕演

說，題目是：單子葉植

物的形態不適應性

(Morphological Misfits

in Monocots)。



再來共有包括天

門冬目 (Asparagales)、

禾本科 1 (Poaceae

Session 1)、禾本科 2 (Poaceae Session 2)、族群生物學 1 (Population Biology 1)、族群生物學 2 (Population Biology 2)、生物資訊學 1 (Informatics Session 1)、生物資訊學 2 (Informatics Session 2)、澤瀉目 (Alismatales)、古植物學 1 (Paleobotany 1)、古植物學 2 (Paleobotany 2) 等 10 個主題分別於 4 個場地在今天進行。

(四) 7 月 9 日：

今天有棕櫚科 (Arecaceae)、禾本科 3 (Poaceae Session 3)、禾本科 4 (Poaceae Session 4)、天南星科 (Araceae)、族群生物學 3 (Population Biology 3)、族群生物學 4 (Population Biology 4)、蘭科 1 (Orchidaceae 1)、蘭科 2 (Orchidaceae 2)、水仙 (Narcissus)、古植物學 3 (Paleobotany 3) 10 個主題分別於 4 個場地進行。



值得一提的是，今天特別安排 11:00 至 12:00 為壁報時間，共有 122 篇壁報 (篇目詳見附錄)，會場討論頗為熱烈。

(五) 7 月 10 日：

今天上午有莎草科 1 (Cyperaceae Session 1)、莎草科 2 (Cyperaceae Session 2)、發育生物學 (Development)、蘭科 3 (Orchidaceae 3)、蘭科 4 (Orchidaceae 4)、古穎花目 1 (Early-Diverg Poales Session 1)、古穎花目 2 (Early-Diverg Poales Session 2) 等 7 個主題分別於 4 個場地進行。

下午大會特別安排參觀紐約植物園標本館 (William and Lynda Steere Herbarium) 及輝瑞植物研究所 (Pfizer Plant Research Institute)。

1. 紐約植物園 (New York Botanical Garden) 介紹

在 19 世紀後期，哥倫比亞大學著名的植物學家，Nathaniel Lord



Britton 和他同為植物學家的妻子 Elizabeth Britton，訪問英國的皇家植物園邱園（Royal Botanical Garden, Kew）後，有所感觸，認為紐約也應該建立一個可與邱園並駕齊驅的植物園。後來選中紐約市布朗克斯區的北段一片土地，其中一部分屬於地產及煙草商人 Pierre Lorillard。



1891 年 4 月 18 日，這片土地被紐約州立法劃為籌建一座最高等級植物園的預定地。包括 Andrew Carnegie，Cornelius Vanderbilt 以及 J. Pierpont Morgan 等著名的公眾領導人及金融家，同意配合出資興建相關建築及設施，這種公私部門共同合作的運作方式持續到今日。1896 年 Nathaniel Lord Britton 被任命為紐約植物園第一任園



長。

作為一個國家歷史地標，佔地 250 英畝的紐約植物園擁有全世界最大的植物收藏之一。收集植物含有超過 100 萬種，包括

超過 30000 種的樹木、8000 種的蘭花，2005 年落成 Nolen Greenhouses 更是全美國最複雜而精緻的溫室。植物園的國際植物科學中心，使用尖端技術去發現、記錄、詮釋和保護植物的植物多樣性，在植物研究領域居全世界之領導地位。科學家每年描述和命名超過 50 個新種，在它們因為森林砍伐及自然棲地破壞而消失之前，將之加入植物多樣性清單。



除了活體保存，植物園的研究工作一有賴下列設施的支持。紐約植物園的標本館（William and Lynda Steere Herbarium），收藏有超過 730 萬份，從

18 世紀至今的來自全球各地的植物標本。而在網路時代，也建立了虛擬標本館（C. V. Starr Virtual Herbarium），網址是

<http://sciweb.nybg.org/science2/VirtualHerbarium.asp>，已將超過 100 萬



份標本數位化，供全球各地研究人員透過網際網路查詢。紐約植物園也是重要的植物科學出版中心，出版有各式期刊、研究專論及科普書籍。

紐約植物園也是全球少數具有資源、收藏及專業，可以開發所需要的資訊，以了解植物的演化關係並經營管理植物多樣性的少數機構之一。它也提供金援，協助進行重要領域的工作。該中心聘



用了專業研究人員、技術人員及助理人員，包括數十名植物系統分類學、經濟植物學、生態學、分子系統學及植物基因組學等領域的博士或博士班學生。該中心的研究設施，因為「輝瑞植物研究室」的設置而大大提升。

## 2. 輝瑞植物研究所 (Pfizer Plant Research Institute) 介紹

輝瑞植物研究實驗室成立於 2006 年 5 月，由著名的輝瑞藥廠



出資設立，是紐約植物園重要的研究機構，研究重點為植物基因組學及分子系統學。阿爾弗雷德·P·斯隆基金會 (Alfred P. Sloan Foundation) 已捐助紐約植物園 572,000 美元進行「生命之

樹條碼」(TreeBOL) 計畫，對來自世界各地 10 萬個不同的樹木物



種的 DNA 進行採樣，建立一個世界植物基因庫，目前有數百萬份 DNA 標本存放於冷凍儲藏室中，其中包括了稀有，瀕危或已滅絕的物種。在植物種源保存著有績效。

(六) 7 月 11 日：

今天有薯蕷科 1 (Dioscoreaceae Session 1)、薯蕷科 2 (Dioscoreaceae Session 2)、親緣基因組學 1 (Phylogenomics Session 1)、親緣基因組學 2 (Phylogenomics Session 2)、莎草科薑族 (Cariceae)、鳶尾科 (Iridaceae)、地下芽植物 1 (Geophyte Session 1)、地下芽植物 2 (Geophyte

Session 2) 等 8 個主題，以及部分自行投稿的主題，分別於 4 個場地進行。



晚上另有茶會以及需額外付費的晚宴在植物園舉行。

(七) 7 月 12 日：

今天有特徵分析 1 (Character Analysis Session 1)、特徵分析 2 (Character Analysis Session 2)、特徵分析 3 (Character Analysis Session 3)、鳳梨科 (Bromeliaceae)、菌生異營性植物 (Mycoheterotrophs) 等 5 個主題，以及部分自行投稿的主題，分別於 3 個場地進行。最後進行閉幕式，由 Dr. Ole Seberg 作閉幕致詞，另外一個重要事項是決定第 6 屆單子葉植物研討會的主辦單位及地點，惟在閉幕式當時並無任何單位表達主辦之意願。目前已知有中國大陸浙江大學，以及巴西的 Universidade Federal do Rio Grande do Norte 於會後提出計畫書，表達願意主辦的意願。

晚上有閉幕茶會在 Fordham University 的大會堂舉行。

(八) 7 月 13 日：

今天是大會安排的野外參訪行程，需額外付費，有 2 個選擇，一



是紐約州阿帕拉契山區的哈德森高地 (Hudson Highlands in the Appalachian Mountains)，另一個是隔壁紐澤西州海岸平原區的松林泥炭地 (Pine Barrens)。筆者參加了

後者，這個松林泥炭地是一片橫跨南新澤西州茂密森林的沿岸平原

地區，由於這裡的沙質、酸性、不肥沃的土壤，以及早期歐洲殖民者進口的農作物不易種植，因此取了「pine barrens」這樣的地名。境內



水分豐富，遍佈大小湖泊，因此也是個溼地環境，有許多單子葉植物。紐澤西州政府已將其劃為州立自然公園（New Jersey Pinelands Commission），同時也有數個

民間非營利組織，例如 Pine Barrens Ecology & Protection - Pinelands Preservation Alliance、NJ Pinelands and Down Jersey、Pine Barrens Landscape and Habitat Photos，加入協力進行棲地保育工作。

### 三、心得及建議

- （一）單子葉植物除了在生物科學研究上特殊價值外，對人類而言，單子葉植物也具有極高的經濟價值，包括我們的主食稻米、小麥、玉米、高粱、大麥、燕麥（禾本科），重要佐料薑（薑科），以及椰子、油棕（棕櫚科），有些地區的主食芋頭（天南星科）及山藥（薯蕷科），重要觀賞花卉蘭花（蘭科）及百合（百合科），重要水果鳳梨（鳳梨科）及香蕉（芭蕉科）等等不勝枚舉，因此加強單子葉植物的保育及種源蒐集，不僅可提升學術研究水平，亦是未來人類糧食安全議題的基礎。
- （二）公私部門協力，進行學術研究（例如紐約植物園及輝瑞植物研究所），或者是自然保育（例如紐澤西州政府及民間非營利組織合作保育 Pine Barrens），在歐美國家是行之有年，很常見的運作模式，但在我國就比較缺乏，現今政府資源有限，而民間潛力無窮，因此未來應加強遊說並鼓勵民間企業或非營利組織，加入促進學術研究及自然保育。
- （三）參加本次研討會，很重要的一項收穫是，認識許多研究單子葉植物的

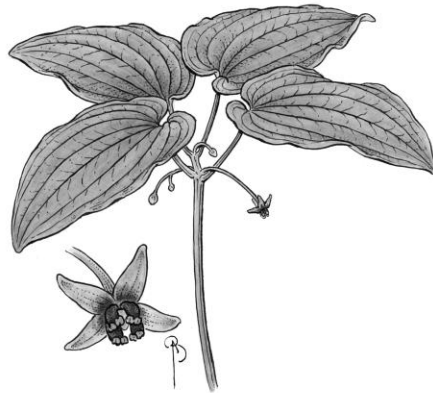
同行。事實上，在歐美先進國家，跨國的學術研究十分普遍，常常可以看到一篇報告的共同作者，是分屬好幾個國家的。對岸中國大陸近年來積極參與歐美研究團隊，如此得以加入主流研究議題，增加曝光度，反觀我國則不夠積極。未來應加強建立國際合作，以融入研究主流。

附錄、第五屆單子葉植物比較生物學國際研討會完整議程

全文完

# MONOCOTS V

NEW YORK 2013



5<sup>TH</sup> INTERNATIONAL CONFERENCE ON  
COMPARATIVE BIOLOGY OF MONOCOTYLEDONS

July 7-July 13 2013

# THE NEW YORK BOTANICAL GARDEN

Botanical Garden scientists, postdoctoral researchers, Ph.D. candidates, research associates, highly-trained technical staff, interns, and volunteers work to explore, understand, document, conserve, and manage Earth's plant, algal, and fungal diversity. Interrelated approaches promote multiple levels of discovery and rapid advancement of understanding. The Garden's William and Lynda Steere Herbarium is the largest herbarium in the Western Hemisphere, with 7.3 million specimens. The state-of-the-art Plant Research Laboratory encompasses the Lewis B. and Dorothy Cullman Program for Molecular Systematics, the Genomics Program, Structural Botany, and Laboratory Collections.



## FORDHAM UNIVERSITY

THE JESUIT UNIVERSITY OF NEW YORK

The faculty of the Department of Biological Sciences is committed to excellence in teaching and research at both undergraduate and graduate levels. Our programs are designed to help students develop the intellectual and technical skills needed to pursue careers in modern biology. State of the art research laboratories in Larkin Hall, at the Rose Hill campus, and at the Louis B. Calder Field Station in Armonk, NY, allow students to experience scientific research techniques first-hand. Graduate students can focus their studies in two areas of specialization within the Department - Cell/Molecular Biology and Ecology.

# General Information

## Registration & Information Desk

Conference registration desks will be located in the second floor lobby of the McGinley Center for the duration of the conference to provide any assistance or information you may need.

## Name Badges

Please wear your conference name badge when passing through Fordham University and Botanical Garden security gates and on their grounds. The organizing committee members and conference assistants can be identified by a dot on their badge.

## Notes to Symposia Organizers

Please arrive 15 minutes early to ensure that all of the audio visual equipment is in proper working order and that all presentations have been loaded. There will be an assistant in each room. Please stay on time to ensure correspondence to parallel sessions. If a speaker ends early or a talk is canceled, do not introduce the next speaker until the time designated for that talk.

## Notes to Speakers

With the assistant on duty, please pre-load your presentations to the computer hard drive in the room of your presentation at least 15 minutes prior to the beginning of your session. Presentation preview rooms will be available from 8:30-17:00 in McGinley Center, rooms 235 and 236 for your convenience.

## Notes to Poster Presenters

Posters must be in English and no more than 102 cm tall by 90 cm wide. Poster printing services are available locally at a Staples office supply store located at 2488 Grand Concourse, Bronx NY 10458 (Hours: Monday-Saturday 8:00-21:00, Sunday 10:00-18:00; phone: 718-741-2793; see Map). Please set up your poster in the McGinley Center Ballroom on Sunday from 14:00 to 17:00 or Monday from 8:00 to 17:00. There will be an assistant present to provide further instructions. The poster session will take place on Tuesday from 11:00 to 12:30. All posters will be on display for the remainder of the day. Please take down your poster by 14:00 Wednesday. Monocots V will not be responsible for posters not removed by 14:00 Wednesday, July 10.

## Scratchpad Workshops

As workshop space permits, registration will continue at the conference registration desk.

## NYBG Tours

Ticketed tours of the Laboratory and Library will be held Wednesday, July 10 14:00-16:00.

## Certificates of Participation

Certificates can be obtained at the registration desk after your presentation.

### **Vendor Exhibits**

Please visit the display tables of scientific publishers and botanical illustrator, Bobbi Angel, on the second floor of the McGinley Center Monday–Wednesday.

### **Check Out**

Dormitory checkout will take place in the lobbies of O’Hare Hall and Finlay Hall beginning at 7:00 Monday July 8–Friday July 11. Those residing in the dormitories must check out by 12:00 on Saturday July 12 (or Sunday July 13 for field trip participants only).

### **Breakfast & Lunch**

Breakfast: Monday– Friday 7:00–8:30, McGinley Center, first floor

Lunch: Monday–Friday 12:30–14:00, McGinley Center, first floor

*Breakfast and lunch are included in Fordham University dormitory fees. Please use the meal card provided at check in. These meals may be purchased by those not staying on campus.*

On Saturday July 12 and Sunday July 13, a continental breakfast will be available for pick up in the O’Keefe Commons from 7:00 to 8:30.

### **Social Events**

Welcoming Reception: Sunday, July 7 at 18:00–20:30, NYBG, Garden Terrace Room

Conference Mixer: Thursday, July 11 at 18:00–19:00, McGinley Center Ballroom

Banquet Dinner: Thursday, July 11 at 19:00, McGinley Center Lounge

Closing Barbeque: Friday, July 12 at 17:30, O’Keefe Commons lawn (rain location: O’Keefe Commons)

### **Coffee Breaks**

Morning and afternoon (except Wednesday afternoon). Coffee breaks will take place on the second floor of the McGinley Center. Please bring your conference tote mug—additional cups will not be provided.

### **NYBG Herbarium**

The New York Botanical Garden Herbarium is open to visitors with scientific reasons to study the collections. Anyone wishing to study the collections should first contact one of the following staff members prior to your visit:

### ***Contact Information***

Dr. Barbara Thiers, Director of the Herbarium; [bthiers@nybg.org](mailto:bthiers@nybg.org)

Dr. Jacquelyn Kallunki, Associate Director of the Herbarium; [jkallunki@nybg.org](mailto:jkallunki@nybg.org)

### ***Upon arrival***

Please ask the security guard or switchboard operator in the International Plant Science Center-Museum-Watson Building lobby to call the Herbarium office, ext. 8626 or 8638, to announce your arrival.



**NYBG Library**

The Mertz Library is closed to the public on Sunday and Monday. During the summer months (July through mid-September) the Library is closed on Saturday and closes every weeknight at 5 p.m. By special arrangement, you may be able to work in the Library from 9:00 a.m. to 5:00 p.m. on Monday and in the mornings on Tuesday through Friday. For appointments, please call 718-817-8728.

**Internet Access**

Please see printed program for internet access information.

**Office Supplies**

A Staples office supply store is nearby. See details under Notes to Poster Presenters on page 6.

**Mail Service**

A US Postal Service office is located on the first floor of the McGinley Center for general office supplies and photocopying services.

**Banking**

On the Fordham campus there is a bank machine located in the McGinley Center. There are several banks located on Arthur Avenue (see Map).

**Transportation**

Local taxi companies:

Pondfield Taxi: 914-377-8000

Prestige Car Service: 718-652-4444

To Manhattan by commuter train (Metro-North):

Fordham Station and Botanical Garden Station, see map.

Note: fares are increased when purchased on the train and are cash only.

To Manhattan by Subway:

B & D lines: Fordham Road & E188th Street or Bedford Park Blvd and Grand Concourse

**Smoking**

New York City law prohibits smoking anywhere in buildings and grounds of The New York Botanical Garden. Fordham University buildings are also smoke-free.

**Emergency**

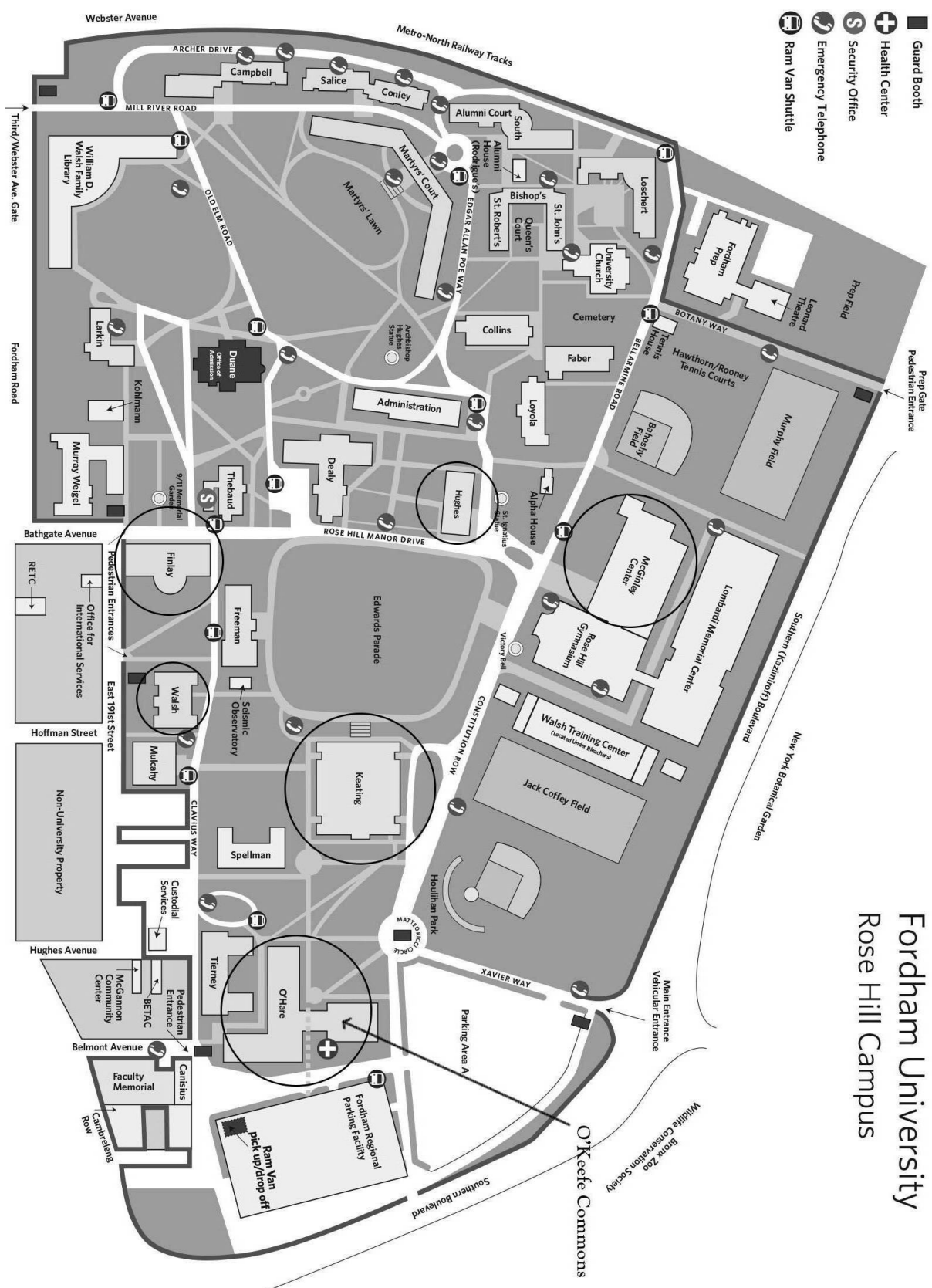
In the event of an emergency the following telephone numbers will be helpful:

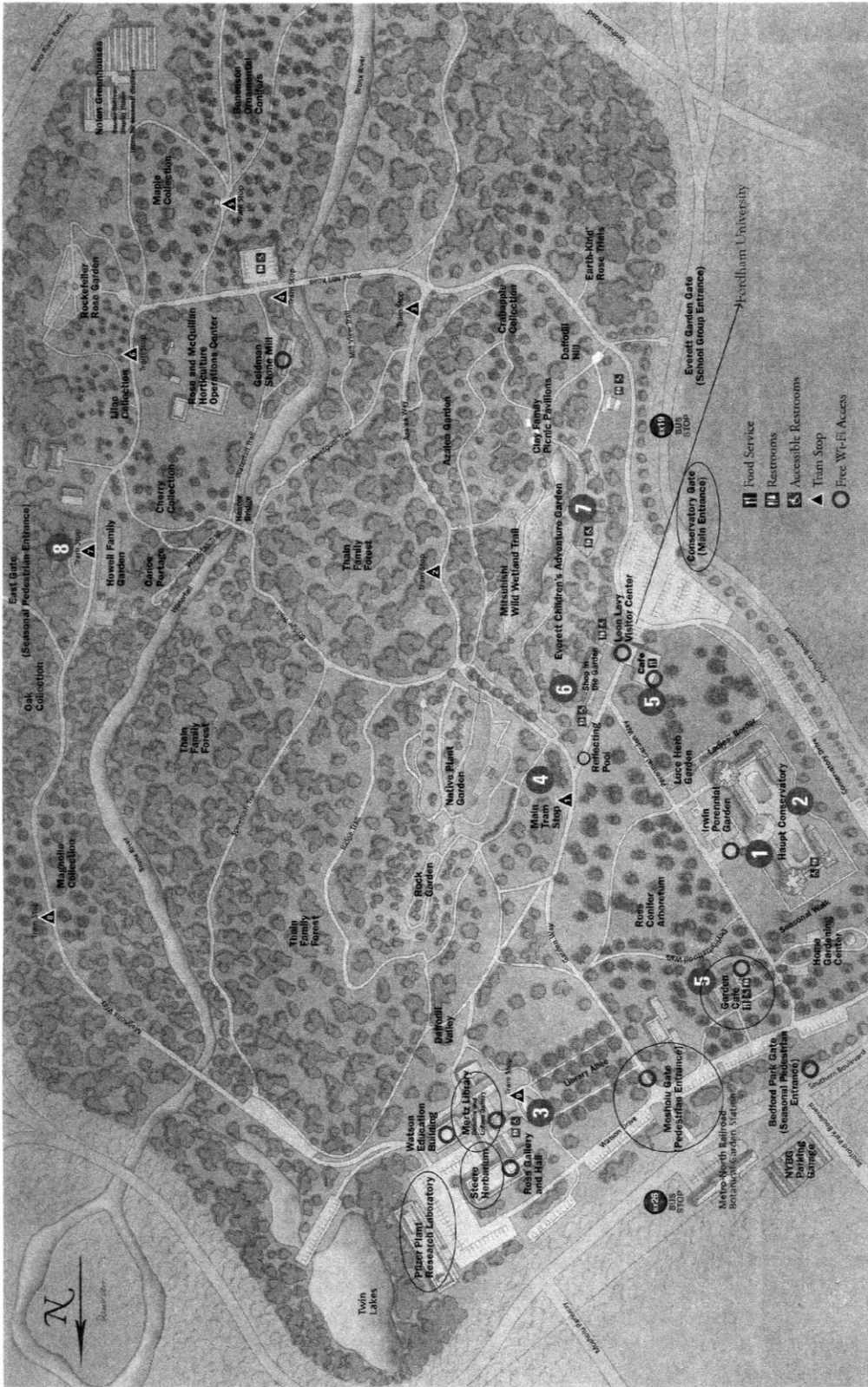
New York City emergency services 911

Fordham University security (718) 817-2222

Local police station (718) 299-3900

# Fordham University Rose Hill Campus





# THE NEW YORK BOTANICAL GARDEN

## A National Historic Landmark

Established 1891

The New York Botanical Garden is located on property owned in full by the City of New York, and its operation is made possible by the City of New York Department of Parks, Recreation and Historic Preservation. The New York Botanical Garden's general operating funds are provided by the New York City Council and the New York State Office of Parks, Recreation and Historic Preservation. The above through President and three elected representatives to the City Council and State Legislature provide leadership funding.



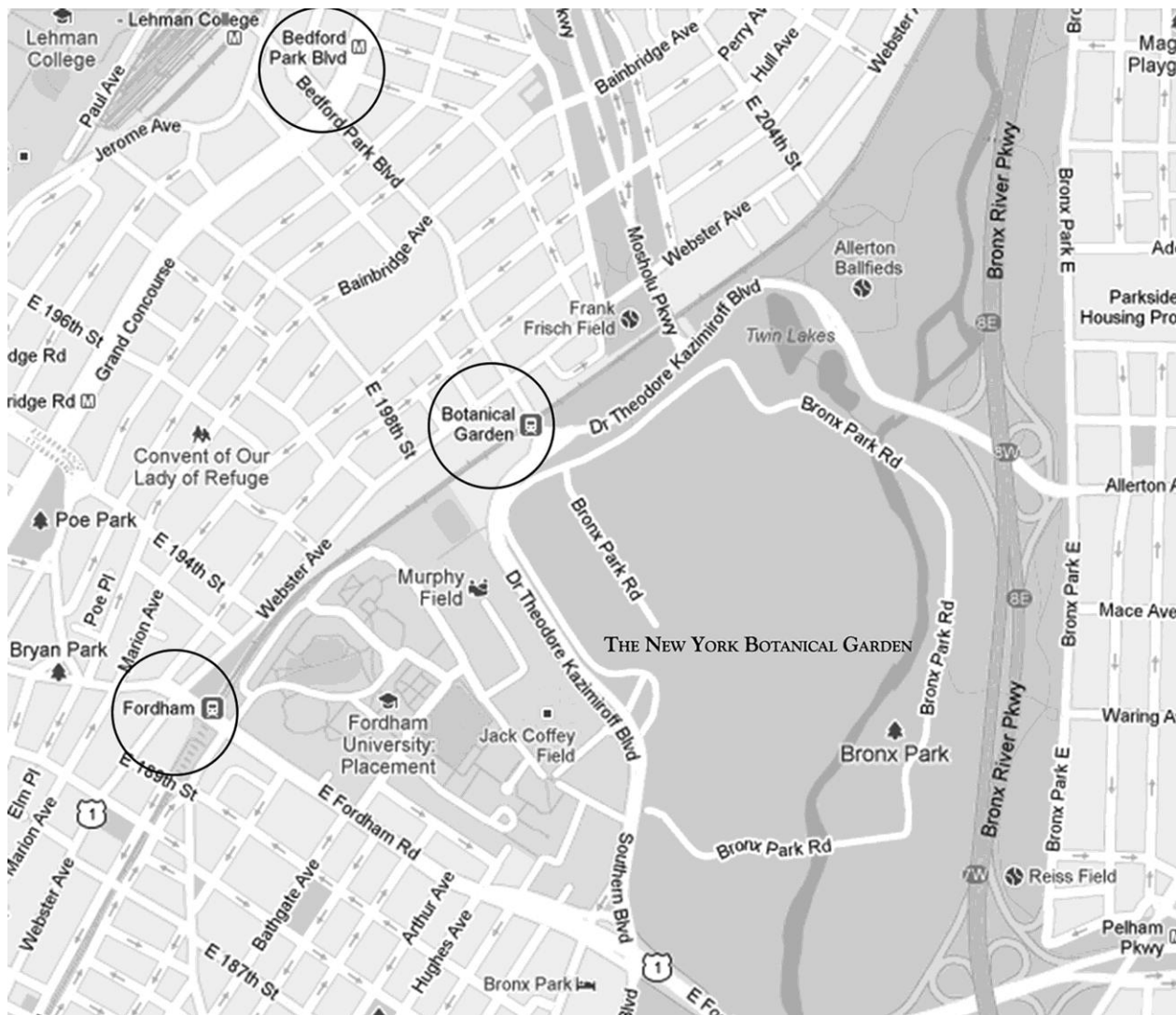
Map showing:

Metro North train station stops:

- Botanical Garden Station
- Fordham University Station

New York City subway stations B & D lines:

- Fordham Road & E188th Street Station
- Bedford Park Blvd and Grand Concourse Station



## Arthur Avenue Merchants and Restaurants

**Addeo Bakery**  
2372 Hughes Ave  
718-367-8316

**Ann & Tony**  
2407 Arthur Ave  
718-933-1469

**Arthur Avenue  
Cigars**  
2332 Arthur  
Avenue

**Arthur Avenue  
Floral**  
615 E 187th Street

**Artuso's Pastry  
Shop**  
670 E 187th Street

**Antonio's  
Trattoria**  
2370 Belmont Ave  
718-733-6630

**Calabria Pork  
Store**  
2338 Arthur Ave  
718-367-5145

**Casa Della  
Mozzarella  
Deli**  
604 E 187th Street  
718-364-3867

**Catania's  
Pizzeria &  
Cafe  
Inc**  
2305 Arthur  
Avenue  
718-584-3583

**Cerini  
Coffee &  
Gifts**  
2334 Arthur  
Avenue

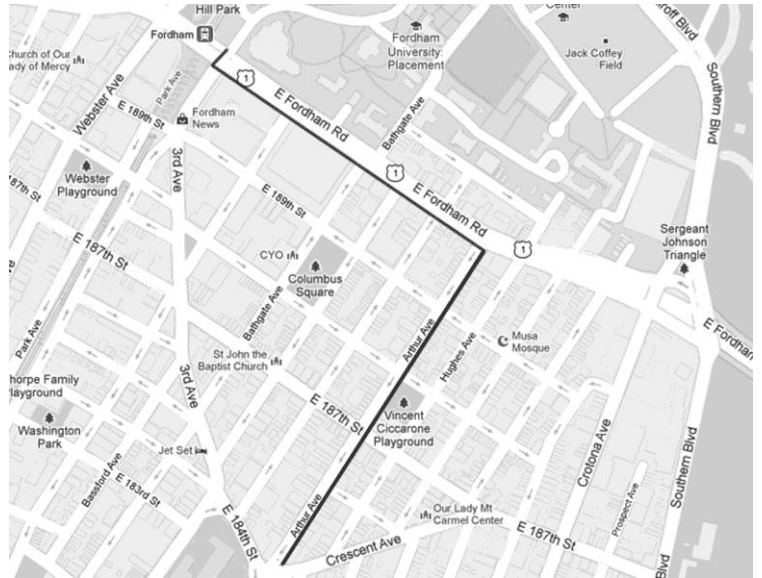
**Dominick's  
Restaurant**  
2335 Arthur  
Avenue  
718-733-2807

**Emilia's  
Restaurant**  
2331 Arthur  
Avenue  
718-367-5915

**Enzo's of Arthur  
Ave**  
2339 Arthur Ave  
718-733-4455

**Joe's Deli**  
685 E 187th Street  
718-367-7979

**La Cantina Wines**  
2355 Arthur Ave  
718-295-9119



**Mario's  
Restaurant**  
2342 Arthur Ave  
718-584-1188

**Mike's Deli**  
2344 Arthur  
Avenue  
718-295-5033

**Morrone Pastry  
Shop**  
2349 Arthur Ave  
718-733-0424

**Pasquale  
Rigoletto  
Restaurant**  
2311 Arthur  
Avenue  
718-365-6644

**Roberto's  
Restaurant**  
603 Arthur  
Avenue  
718-733-9503

**Teitel Brothers**  
2372 Arthur Ave  
718-733-9400

**Terranova Bakery**  
691 E 187th Street  
718-367-6985

**Umberto's Clam  
House  
Restaurant**  
2356 Arthur  
Avenue  
718-220-2526

**Zero Otto Nove  
Restaurant**  
2357 Arthur  
Avenue  
718-220-10

# Monocots V Symposia

## ALISMATALES

Symposium: Alismatales: Have We Gotten our Feet Wet?

Organizers: Sean Graham, University of British Columbia, Canada  
Dennis Stevenson, The New York Botanical Garden, USA

## ARACEAE

Symposium: Recent Advances in Research with Neotropical Araceae

Organizers: Thomas B. Croat, Missouri Botanical Garden, USA  
Ivanilza Moreira de Andrade, Universidade Federal do Piaul, Brazil  
Livia Godinho Temponi, Universidade Estadual do Oeste do Parana, Brazil

## ARECACEAE

Symposium: Evolutionary Biology of Palms

Organizers: Bill Baker, Royal Botanical Gardens, Kew, UK  
Conny Asmussen-Lange, University of Copenhagen, Denmark  
Anders Barfod, Aarhus University, Denmark

## ASPARAGALES

Symposium: Asparagales: Three Decades after Dahlgren, Where Are We?

Organizers: Alexander Kocyan, University of Potsdam, Germany  
Olwen Grace, Royal Botanic Gardens, Kew, UK

## BROMELIACEAE

Symposium: Phylogenetics of Bromeliaceae A Novel Approaches at Various Taxonomic Levels

Organizer: Jason Grant, Universite de Neuchatel, Switzerland

## CHARACTER ANALYSIS

Symposium: Homology and Character Conflict: Case Studies in Monocot Systematics

Organizers: Jerrold Davis, Cornell University, USA  
Richard Bateman, Royal Botanic Gardens, Kew, UK

## CYPERACEAE: CARICEAE

Symposium: Cyperaceae Tribe Cariceae: Phylogeny, Cytology, and the Origins of a Hyperdiverse Sedge Clade

Organizers: Julian R. Starr, University of Ottawa, Canada  
David A. Simpson, Royal Botanic Gardens, Kew, UK

## CYPERACEAE: NON-CARICEAE

Symposium: Sedges Still Have Edges: Systematics and Evolution of Cyperaceae, a Major Monocot Family

Organizers: David A. Simpson, Royal Botanic Gardens, Kew, UK  
Julian R. Starr, University of Ottawa, Canada

## DEVELOPMENT

Symposium: Using Exceptions to Understand the Rules? Understanding Evo/Devo in Monocot Diversity

Organizers: Paula Rudall, Royal Botanic Gardens, Kew, UK  
Chelsea Specht, University of California, USA  
Barbara Ambrose, The New York Botanical Garden, USA

## DIOSCOREACEAE

Symposium: Bridging Basic and Applied Research in Dioscoreaceae

Organizers: Lauren Raz, Universidad Nacional de Colombia, Colombia  
Paul Wilkin, Royal Botanic Gardens, Kew, UK

## GEOPHYTES

Symposium: Heterogeneous Habitats: Focusing on the Role of Geophytes

Organizer: Carol A. Wilson, Rancho Santa Ana Botanic Garden, USA

## INFORMATICS

Symposium: Monocot Biodiversity Informatics

Organizers: Melissa Tulig, The New York Botanical Garden, USA

Paul Wilkin, Royal Botanic Gardens, Kew, UK

## IRIDACEAE

Symposium: Diversity and Evolution of Pollination and Reproductive Systems-Focus on Iridaceae

Organizer: Sophie Nadot, Universite Paris-Sud, France

## MYCOHETEROTROPHS

Symposium: Mycoheterotrophy

Organizers: Vincent Merckx, University of British Columbia, Canada

Sean Graham, University of British Columbia, Canada

## NARCISSUS

Symposium: Systematics and Population Biology of Narcissus

Organizer: John David, RHS Garden, Wisley, UK

## ORCHIDACEAE

Symposium: Orchid Relationships from Species to Subfamily-A Symposium in Honor of Finn N. Rasmussen

Organizers: Ken Cameron, The University of Wisconsin, Madison, USA

Mark Chase, Royal Botanic Gardens, Kew, UK

John Freudenstein, Ohio State University, USA

## PALAEOBOTANY

Symposium: Insights and Benefits from Monocot Palaeobiology: Fossils, DNA, and Phylogenies

Organizers: Selena Y. Smith, University of Michigan, USA

M. Alejandra Gandolfo, Cornell University, USA

## PHYLOGENOMICS

Symposium: Genome Evolution across the Monocot Phylogeny

Organizers: James Leebens-Mack, University of Georgia, USA

J. Chris Pires, University of Missouri-Columbia, USA

## POALES: EARLY POALES

Symposium: Early-diverging Poales

Organizer: Lisa M. Campbell, The New York Botanical Garden, USA

Maria das Graças Wanderley, Instituto de Botânica, Sao Paulo, Brazil

## POALES: POACEAE

Symposium: Poaceae: Systematics and Phylogeny of Major Lineages

Organizer: Paul M. Peterson, Smithsonian Institution, USA

Jeffery M. Saarela, Canadian Museum of Nature, Canada

## POPULATION BIOLOGY

Symposium: Monocots under the Magnifying Glass: Speciation and Population Biology in Monocotyledons

Organizers: Alan W. Meerow, USDA-ARS National Germplasm Repository, USA

Chelsea Specht, University of California, Berkeley, USA

Thiago Andre, Universidade Federal do Rio de Janeiro, Brazil

## Conference Schedule Overview

Monday, July 8					
	Keating Hall- Auditorium	O'Hare Hall- O'Keefe Commons	Walsh Library-Flom Auditorium	McGinley Center- Faculty Lounge	Hughes Hall-Gabeli Business School
7:00	Breakfast- McGinley Center				
8:30	Conference Opening				
9:00					
9:30					
10:00	Coffee Break - McGinley Center				
10:30	Asparagales		Informatics Session 1	Alismatales	
11:00					
11:30					
12:00					
12:30-14:00	Lunch- McGinley Center				
14:00	Poaceae Session 1	Population Biology Session 1	Informatics Session 2	Paleobotany Session 1	
14:30					
15:00					
15:30	Coffee Break - McGinley Center				
16:00	Poaceae Session 2	Population Biology Session 2		Paleobotany Session 2	Scratch Pad Workshop: Cyperaceae 1
16:30					
17:00					
17:30					
18:00					



Tuesday, July 9					
	Keating Hall- Auditorium	O'Hare Hall- O'Keefe Commons	Walsh Library-Flom Auditorium	McGinley Center- Faculty Lounge	Hughes Hall-Gabeli Business School
7:00	Breakfast- McGinley Center				
8:30	Areaceae	Araceae	Orchidaceae Session 1	Narcissus	Scratch Pad Workshop 1
9:00					
9:30					
10:00					
10:30	Coffee Break - McGinley Center				
11:00	Poster Session - McGinley Center Ballroom				
11:30					
12:00					
12:30-14:00	Lunch- McGinley Center				
14:00	Poaceae Session 3	Population Biology Session 3	Orchidaceae Session 2		
14:30					
15:00					
15:30	Coffee Break - McGinley Center				
16:00	Poaceae Session 4	Population Biology Session 4			Scratch Pad Workshop: Cyperaceae 2
16:30			Paleobotany Session 3		
17:00					
17:30					
18:00					

Wednesday, July 10					
	Keating Hall- Auditorium	O'Hare Hall- O'Keefe Commons	Walsh Library-Flom Auditorium	McGinley Center- Faculty Lounge	The New York Botanical Garden
7:00	Breakfast- McGinley Center				
8:30	Cyperaceae Non-Cariceae Session 1	Development	Orchidaceae Session 3	Early-Diverg Poales Session 1	
9:00					
9:30					
10:00					
10:30	Coffee Break - McGinley Center				
11:00	Cyperaceae Non-Cariceae Session 2			Early-Diverg Poales Session 2	
11:30		Orchidaceae Session 4			
12:00					
12:30-14:00	Lunch- McGinley Center				
14:00-16:00					Tours of NYBG Herbarium and Pfizer Plant Research Laboratory

Thursday, July 11						
	Keating Hall- Auditorium	O'Hare Hall- O'Keefe Commons	Walsh Library- Flom Auditorium	McGinley Center- Faculty Lounge	Hughes Hall- Gabeli Business School	NYBG-Pfizer Conference Room
7:00	Breakfast- McGinley Center					
8:30	Dioscoreaceae Session 1	Cariceae		Contributed Papers Session 1	Scratch Pads 2	
9:00			Iridaceae			
9:30						
10:00						
10:30	Coffee Break - McGinley Center					
11:00	Dioscoreaceae Session 2	Contributed Papers Session 2		Contributed Papers Session 4		Cariceae Working Group
11:30			Contributed Papers Session 3			
12:00						
12:30-14:00	Lunch-McGinley Center					
14:00	Phylogenomics Session 1	Contributed Papers Session 5	Contributed Papers Session 6	Geophytes Session 1		
14:30						
15:00						
15:30	Coffee Break - McGinley Center					
16:00	Phylogenomics Session 2	Contributed Papers Session 7		Geophytes Session 2		
16:30						
17:00						
17:30						
18:00						

Friday, July 12						
	Keating Hall- Auditorium	O'Hare Hall- O'Keefe Commons	Walsh Library- Flom Auditorium	McGinley Center- Faculty Lounge	Hughes Hall- Gabeli Business School	NYBG-Pfizer Conference Room
7:00	Breakfast- McGinley Center					
8:30	Character Analysis Session 1	Bromeliaceae		Contributed Papers Session 8		
9:00						
9:30						
10:00						
10:30	Coffee Break - McGinley Center					
11:00	Character Analysis Session 2			Mycohetertrophs		
11:30						
12:00						
12:30-14:00	Lunch- McGinley Center					
14:00	Character Analysis Session 3				Cyperaceae Working Group	
14:30						
15:00						
15:30	Coffee Break - McGinley Center					
16:00	Conference Closing					
16:30						
17:00						
17:30		Closing Reception (on Lawn)				
18:00						

# Conference Program

Sunday, July 7

18:00 Welcome Reception: NYBG, Garden Terrace Room

Monday, July 8

8:30 - 10:00 Conference Opening Keating Hall, Auditorium  
Welcome by The Rev. Joseph M. McShane, S.J.  
Opening address by Dr. Paula J. Rudall

10:00-10:30 Coffee Break - McGinley Center

Asparagales	Keating Hall, Auditorium
Asparagales: Three Decades After Dahlgren, Where Are We?	

10:30 Pires, Chris J. - **Phylogenomics of Asparagales**

11:00 Grace, Olwen M. - **Progress in the Systematics of *Aloe* (Subfamily Asphodeloideae, Xanthorrhoeaceae)**

11:15 Kocyan, Alexander - **Evolution of Reproductive Characters and Pollination Syndromes within the Astelioid Clade: Results of a Plastid DNA Study**

11:30 Garcia, Nicolas - **Reticulate Evolution in Amaryllidaceae Tribe Hippeastreae as Inferred with ITS and Chloroplast Sequence Data**

11:45 Schneeweiss, Hanna - **Chromosomal Evolution as a Basic Mechanism of Differentiation and Speciation in *Prospero* (Hyacinthaceae)**

12:00 Martínez-Azorín, Mario - **From Liliaceae *sensu latissimo* to Asparagales *sensu* APG III: A Changing History on Family Circumscriptions**

12:15 Müller-Doblies, Dietrich - **Are All Family Changes from APG II (2003) to APG III (2009) the Most Welcome Choice?**

Monday, July 8

Informatics	Walsh Library, Flom Auditorium
Monocot Biodiversity Informatics	
session 1	

- 10:30 Hipp, Andrew L. - **Biodiversity Informatics of the Cyperaceae: Where We Stand and Where We're Heading**
- 11:00 Bruhl, Jeremy J. - **Simple Sedge ID: Sedge Genera of the World II**
- 11:15 Gardiner, Lauren M. - **Palms of the World Online: Web Taxonomy Via Palmweb**
- 11:30 Naczi, Robert F. C. - **Collaborative Monocot Specimen Digitization through NSF-ADBC (Advancing Digitization of Biodiversity Collections)**
- 11:45 Sakuragui, Cássia M. - **Monocots and Brazil's Plant List**
- 12:00 Klopper, Ronell R. - **Value Added Taxonomy: Vision and Anticipated Outcomes of the Aloes of the World Project (AWP)**
- 12:15 Wilson, Karen L. - **Biodiversity Informatics and Australian Monocots**

Alismatales	McGinley Center, Faculty Lounge
Alismatales: Have We Gotten our Feet Wet	

- 11:00 Thadeo, Marcela - **Character Transformations in the Alismatids: Phylogenetic Studies Inferred from Morphology and Molecular Data**
- 11:15 Remizowa, Margarita V. - **Contrasting Patterns of Flower Development in Alismatales**
- 11:30 Cuenca, Argelia - **Mitochondrial Evolution and Alismatid Phylogenetics: Can We Keep Our Heads Above Water?**
- 11:45 Ross, T. Gregory - **Molecular Evolution and Phylogenetics of Alismatales Using Whole Plastid Genomes**
- 12:00 Sokoloff, Dmitry D. - **Flowers and Fruits of *Maundia*, a Phylogenetically Isolated Member of Alismatales**
- 12:15 Les, Donald H. - **Adaptive Evolution of the Chloroplast Genome in *Najas* (Hydrocharitaceae)**

Monday, July 8

12:30-14:00 Lunch - McGinley Center

Poales: Poaceae	Keating Hall, Auditorium
Poaceae: Systematics and Phylogeny of Major Lineages session 1	

- 14:00 Duvall, Melvin R. - **Phylogenomics of Crown Grasses**
- 14:30 Clark, Lynn G. - **Recent Advances in Understanding the Evolution and Systematics of the Bambusoideae (Poaceae)**
- 15:00 Herrera Arrieta, Yolanda - **A Molecular Phylogeny and Classification of Nineteen Genera in the Chlorideae (Poaceae: Chloridoideae)**

Population Biology	O'Hare Hall, O'Keefe Commons
Monocots under the Magnifying Glass: Speciation and Population Biology in Monocotyledons session 1	

- 14:00 Hamrick, James L. - **Patterns of Genetic Diversity within the Monocots**
- 14:30 King, Ursula M. - **Investigation of Genetic Variation in *Najas flexilis* (Hydrocharitaceae) Using 454 Genome Sequencing**
- 15:00 Meerow, Alan W. - **Something New Under the Sun: The Complex Population History of Louisiana Iris in Florida**

Informatics	Walsh Library, Flom Auditorium
Monocot Biodiversity Informatics session 2	

- 14:00 Pupulin, Franco - **Epidendra, the Global Taxonomic Orchid Network**
- 14:15 Simon, Bryan K. - **Grasses Online: Scratchpads for Poaceae**
- 14:30 Wilkin, Paul - **EMONOCOT: Biodiversity Informatics for Monocot Plants**
- 14:45 Simpson, David A. - **World Flora Online**
- 15:00 Livermore, Laurence - **Don't Make Me Think: Biodiversity Data Publishing Made Easy**

## Monday, July 8

Paleobotany	McGinley Center, Faculty Lounge
Insights and Benefits from Monocot Palaeobiology: Fossils, DNA, and Phylogenies session 1	

- 14:00 Hermsen, Elizabeth J. - **What use is Paleobotany Anyhow? Using the Fossil Record to Understand Monocot Evolution, Past Diversity, and Biogeography**
- 14:30 Jiří Kvaček - **Cretaceous Monocotyledon Megafossils from Europe**
- 15:00 Conran, John G. - **An Update of Monocot Macrofossil Data, With Emphasis on Oceania and the Southern Hemisphere**

15:30-16:00 Coffee Break - McGinley Center

Poales: Poaceae	Keating Hall, Auditorium
Poaceae: Systematics and Phylogeny of Major Lineages session 2	

- 16:00 Peterson, Paul M. - **A Molecular Phylogeny and Classification of the Sporobolinae (Poaceae: Chloridoideae)**
- 16:30 Davis, Jerrold I. - **Phylogenetic Structure and Morphological Patterns in the Grass Subfamily Pooideae**
- 17:00 Romaschenko, Konstantin - **Miocene–Pliocene Speciation, Introgression, and Migration of *Patis* and *Ptilagrostis* (Poaceae: Stipeae)**
- 17:30 Valdés Reyna, Jesus - **A Molecular Phylogeny and Classification of *Eriocoma* and *Pseudoeriacoma* (Poaceae: Stipeae)**

Monday, July 8

Population Biology Monocots under the Magnifying Glass: Speciation and Population Biology in Monocotyledons session 2	O'Hare Hall, O'Keefe Commons
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- 16:00 Masashi Ohara - **The Evolution of Self-Compatible and Self-Incompatible Populations in the Hermaphroditic Perennial, *Trillium camschatcense* (Melanthiaceae)**
- 16:30 Oleas, Nora H. - **Understanding Speciation in a Heterogenous Space; the Complexity of *Phaedranassa* (Amaryllidaceae) In the Ecuadorean Andes**
- 17:00 Ruiz-Sanchez, Eduardo - **The Role of the Trans-Mexican Volcanic Belt on Speciation within a Pachycaulous Xerophyte: *Nolina parviflora* Complex (Asparagaceae: Nolinoideae)**
- 17:30 Pinheiro, Fabio - **When Phylogeography Meets Speciation: Deep Genetic Structure and Outbreeding Depression Reveal Early Stages of Reproductive Isolation in Neotropical Orchid Species**

Paleobotany Insights and Benefits from Monocot Palaeobiology: Fossils, DNA, and Phylogenies session 2	McGinley Center, Faculty Lounge
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- 16:00 Conran, John G. - **The Monocot Fossil Pollen Record of New Zealand and Its Implications for Palaeoclimates and Environments**
- 16:30 Couvreur, Thomas, L.P. - **Palms, Fossils and the Evolution of Tropical Rain Forests**
- 17:00 Gandolfo, Maria A. - **Revision of Monocot Fossils to Use as Calibration Points: Traceable Information**
- 17:30 Hertweck, Kate L. - **Estimation of Divergence Times in Asparagales in the Presence of Hybridization**

## Tuesday, July 9

Arecaceae

Keating Hall, Auditorium

Evolutionary Biology of Palms

- 8:30 Lange, Conny B. A. - **Next Generation Palm Phylogenetics: Bridging Traditional Gene Sequencing and Whole Genome Sequencing**
- 8:45 Barrett, Craig F. - **Plastid Genomes Provide Resolution and Support for Deep Relationships among the Palms**
- 9:00 Baker, William J. - **Global Biogeography and Diversification History of Palms**
- 9:15 Eiserhardt, Wolf L. - **Spatial Patterns of Palm Diversity from a Phylogenetic Perspective**
- 9:30 Bacon, Christine D. - **Phylogenetic Relationships and Biogeographic History of Iriarteeae (Arecaceae)**
- 9:45 Couvreur, Thomas, L.P. - **Phylogenetics and Evolution of the African Rattans Using Next Generation Sequencing Methods: Insights into African Rain Forest Evolution**
- 10:00 Nadot, Sophie - **Phylogenetic Relationships in Ptychospermatinae and Archontophoenicinae Using Multiple Nuclear and Chloroplast Markers**
- 10:15 Anders S. Barfod - **Evolution and Floral Development in Wax Palms (*Ceroxylon*) and Vegetable Ivory Palms (Tribe Phytelephea)**



Tuesday, July 9

Araceae	O'Hare Hall, O'Keefe Commons
Recent Advances in Research with Neotropic Araceae	

- 8:45 Croat, Thomas B. - **An Overview of Research with Araceae**
- 9:00 Maia, Artur - **Pollination Ecology and the Floral Scents of Beetle-Pollinated Neotropical Aroids**
- 9:15 Carlsen, Mónica M. - **The Evolutionary History of *Anthurium* (Araceae) Through Time and Space**
- 9:30 Andrade, Ivanilza M. - **Repatriating Araceae Taxonomic Data from European Collections to Brazil**
- 9:45 Temponi, Livia G. - **Morphology and Evolution in *Anthurium* Sect. *Urospadix* Engl.**
- 10:00 Cardona, Felipe A. - **Panbiogeography of the Genus *Spathiphyllum* (Araceae) in the Neotropics, a Primary Biogeographical Homology Hypothesis**
- 10:15 Zuluaga, Alejandro - **Systematics and Evolution of Monsteroideae with Focus on the Neotropical *Monstera* (Araceae)**

Orchidaceae	Walsh Library, Flom Auditorium
Orchid Relationships from Species to Subfamily-	
A Symposium in Honor of Finn N. Rasmussen	
session 1	

- 8:30 Freudenstein, John V. - **Symposium Introduction**
- 8:45 Fay, Michael F. - **The Population/Species Interface in Orchids: New Possibilities from Next Generation Sequencing**
- 9:15 Karremans, Adam P. - **Pollination of the Orange Flowered *Specklinia* (Pleurothallidinae: Orchidaceae): Morphological Diversity, Osmophores and Nectaries**
- 9:45 Lyon, Stephanie P. - **A Multi-Gene Phylogeny of the Australasian Orchid Genus *Corybas*, With Implications for Historical Biogeography, Morphological Evolution, and Generic Circumscription**

Tuesday, July 9

*Narcissus*

McGinley Center, Faculty Lounge

Systematics and Population Biology of *Narcissus*

- 8:30 Scotland, Robert - **The Corona of the Daffodil *Narcissus bulbocodium* Shares Stamen-Like Identity and Is Distinct From the Orthodox Floral Whorls**
- 8:45 Arroyo, Juan - ***Narcissus* (Amaryllidaceae) As a Model System for Studying Ecology and Evolution of Plant Reproductive Systems**
- 9:00 Marques, Isabel - **The Tangled Evolution of *Narcissus*: How Hybridization, Polyploidy and Ecology Embellished Our Gardens**
- 9:15 Trias-Blasi, Anna - **Who's who In the *Narcissus triandrus* Complex?**
- 9:30 Könyves, Kálmán L. - **Developing Molecular Markers to Study Species and Population Variation in *Narcissus* Section *Bulbocodium***

10:30-11:00 Coffee Break - McGinley Center

11:00 - 12:30

Poster Session - McGinley Center Ballroom

12:30-14:00 Lunch - McGinley Center

Poales: Poaceae

Keating Hall, Auditorium

Poaceae: Systematics and Phylogeny of Major Lineages

session 3

- 14:00 Röser, Martin - **Duthieae, a New Tribe of Subfamily Pooideae, and Its Relationships**
- 14:30 Catalán, Pilar - **Comparative Genomics, Phylogenetic, and Biogeographical Studies of the *Brachypodium* (Pooideae: Brachypodieae) Model Complex**
- 14:45 Gillespie, Lynn J - **Generic and Subtribal Realignments in the PPAM Clade (Pooideae. Poae: Subtribes Alopecurinae, Miliinae, Phleinae, Poinae, and Puccinelliinae)**

Tuesday, July 9

<b>Population Biology</b> Monocots under the Magnifying Glass: Speciation and Population Biology in Monocotyledons session 3	O'Hare Hall, O'Keefe Commons
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- 14:00 Kress, John W. - **Zingiberales and Rolled-Leaf Beetles (Chrysomelidae): Reconstructing Plant-Herbivore Networks using DNA Barcodes**
- 14:30 Gowda, Vinita - **Role of Pollinators in Shaping Population Genetic Structures of Plants: An Example from the Caribbean Heliconia (Heliconiaceae)-Hummingbird Interaction**
- 15:00 André, Thiago - **Adventuring Through Dry Forests: *Chamaecostus subsessilis* (Costaceae) Phylogeography, Spatial Distribution and Evolution**

<b>Orchidaceae</b> Orchid Relationships from Species to Subfamily- A Symposium in Honor of Finn N. Rasmussen session 2	Walsh Library, Flom Auditorium
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- 14:00 Arévalo, Rafael - **Phylogeny and Floral Traits: A Neotropical Orchid Case**
- 14:30 Paun, Ovidiu - **Genome-Wide Absence of Genetic Differentiation Contrasts With Phenotypic Distinctiveness between *Dactylorhiza* Allopolyploids (Orchidaceae)**
- 15:00 Clements, Mark A. - **Australian Orchids: A DNA Based Reassessment of the Status of Genera and Some Threatened Species**

15:30-16:00 Coffee Break - McGinley Center

Tuesday, July 9

Poales: Poaceae

Keating Hall, Auditorium

Poaceae: Systematics and Phylogeny of Major Lineages

session 4

- 16:00 Soreng, Robert J. - **Evolution of Life History Traits in *Poa* L. (Poaceae): Longevity, Storage Organs & Breeding Systems**
- 16:30 Saarela, Jeffery M. - **Phylogenetic Relationships among the Genera and Tribes of the 'Aveneae-Type Plastid DNA' Grasses (Pooideae: Poaceae), With A Focus on Generic Limits of *Calamagrostis/Deyeuxia***

Population Biology

O'Hare Hall, O'Keefe Commons

Monocots under the Magnifying Glass: Speciation and Population Biology in

Monocotyledons

session 4

- 16:00 Wendt, Tânia - **Selfing and Hybridization in Bromeliaceae: Implications for Evolution and Diversity**
- 16:30 Palma-Silva Clarisse - **Mating System Variation in Hybridizing Bromeliads (*Pitcairnia* ssp.) Endemic to Neotropical Inselbergs**
- 17:00 Triplett, Jimmy K. - **Hybridization, Allopolyploid Speciation, and Taxonomic Confusion: Lessons from the Temperate Bamboos**

Paleobotany

McGinley Center, Faculty Lounge

Insights and Benefits from Monocot Palaeobiology: Fossils, DNA, and Phylogenies

session 3

- 16:00 Iles, William J.D. - **Dating Early Events in Monocot Evolution**
- 16:30 Benedict, John C. - **Morphological and Anatomical Variation in Fruits and Seeds of Extant and Fossil Zingiberales and Their Systematic Significance**
- 17:00 Strömberg, Caroline A.E. - **The Cenozoic Assembly of Grassland Ecosystems: The Fossil Record of Phytoliths Reveals a Complex Pattern**
- 17:30 Smith Selena Y. - **The Use of Phytoliths in Refining the Monocot Fossil Record**

## Wednesday, July 10

Cyperaceae: Non-Cariceae Sedges Still Have Edges: Systematics and Evolution of Cyperaceae, a Major Monocot Family session 1	Keating Hall, Auditorium
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- 8:30 Muasya, A. Muthama - **Setting The Scene – An Overview of Phylogenetic Relationships In Cyperaceae**
- 8:45 Prychid, Chrissie J. - **Fact Is Stranger Than Fiction: Unique Leaf-Borne Plantlets And Unusual Floral Morphology In *Scirpodendron ghaeri* (Cyperaceae Subfamily Mapanioideae)**
- 9:00 Bruhl, Jeremy J. - **Phylogeny and Biogeography in Schoeneae (Cyperaceae) and Their Taxonomic Consequences**
- 9:15 Buddenhagen, Christopher - **Biogeography, Habitat and Diversification: Insights from a Chronogram for the Tribe Rhynchosporae (The Beaksedges; Cyperaceae).**
- 9:30 Starr, Julian R. - **Phylogeny of the Hyperdiverse Cariceae + Dulichieae + Scirpeae S.S. Clade (Cyperaceae)**
- 9:45 Roalson, Eric H. - **The Eleocharidae + Abildgaardieae Clade**
- 10:00 Monfils, Anna K. - **Phylogeny of the Paraphyletic Fuireneae (Cyperaceae)**
- 10:15 Larridon, Isabel - **Tackling Convergent Evolution, Radiation and Paraphyly: Towards a Modern Classification of the Giant Genus *Cyperus***

Wednesday, July 10

Development	O'Hare Hall, O'Keefe Commons
Using Exceptions to Understand the Rules? Understanding Evo/Devo in Monocot	

- 8:30 Alvarez-Buylla, Elena R. - **From Genes to Phenotypes and Evolution: *Lacandonia schismatica* Unique Homeotic Floral Phenotype Challenges Gene Regulatory Models of Development**
- 8:45 Almeida, Ana Maria R. - **Petaloidy in the Zingiberales: On Floral Morphological Evolution and Gene Regulatory Networks**
- 9:00 Tregear, James W. - **Palm Inflorescence Development: Searching For Molecular Links to Other Monocots**
- 9:15 Mondragón-Palomino, Mariana - **Helpful Monsters in Orchid Flower Evo-Devo**
- 9:30 Ambrose, Barbara A. - **Using MADS-Box Genes to Solve Botanical Puzzles: From Monocots to Land Plants**
- 9:45 Whipple, Clinton J. - **Assembling a Novel Developmental Network: Bract Suppression in the Grasses**

Orchidaceae	Walsh Library, Flom Auditorium
Orchid Relationships from Species to Subfamily- A Symposium in Honor of Finn N. Rasmussen session 3	

- 8:30 Rasmussen, Finn N. - **Patterns and Hierarchy in Orchid Characters**
- 9:00 Cameron, Kenneth - **Recent Advances in the Systematics of the Orchid Subfamily Vanilloideae**
- 9:30 Freudenstein, John V. - **Phylogenetic Patterns and Evolution of Anther Morphology in Epidendroid Orchids**
- 10:00 Micheneau, Claire - **Phylogenetics of Australasian Aeridinae (Vandaeae, Orchidaceae)**

Wednesday, July 10

Poales: Early Poales

McGinley Center, Faculty Lounge

Early-diverging Poales  
session 1

- 9:15 Versieux, Leonardo M. - **An Integrative Perspective on the Systematics and Conservation of the Tillandsioideae Subfamily (Bromeliaceae) In Brazil: Advances and Challenges**
- 9:30 Rafael B. Louzada - **A Molecular Phylogeny of *Orthophytum* (Bromeliaceae) Elucidates Infrageneric Relationships and Demonstrates the Taxonomic Significance of the Inflorescence Type**
- 9:45 Fernández Lucero, Mateo - **Morphology and Natural History of *Guacamaya Superba* , the Inírida Flower (Rapateaceae)**
- 10:00 Oriani, Aline - **Floral Anatomy of Rapateaceae and Taxonomic Considerations**
- 10:15 Coan, Alessandra I. - **Floral Anatomy and Embryology of Eriocaulaceae (Poales)**

10:30-11:00 Coffee Break - McGinley Center

Orchidaceae

Walsh Library, Flom Auditorium

Orchid Relationships from Species to Subfamily-  
A Symposium in Honor of Finn N. Rasmussen  
session 4

- 11:00 Givnish, Thomas J. - **The 39 Steps: A Plastome Phylogeny for Orchid Tribes, With Implications for the Evolution of Epiphytism, CAM Photosynthesis, and Net Rates of Species Diversification**
- 11:30 Schulte, Katharina - **The *Dendrobium* Alliance Revisited: A Molecular Phylogenetic Approach towards Reconciling Taxonomic Concepts in Dendrobiinae (Orchidaceae)**
- 11:45 Chase, Mark W. - **An Updated Classification of Orchidaceae**

Wednesday, July 10

Cyperaceae: Non-Cariceae

Keating Hall, Auditorium

Sedges Still Have Edges: Systematics and Evolution of Cyperaceae,  
a Major Monocot Family  
session 2

- 11:00 Muasya, A. Muthama - ***Ficinia* Clade (Cypereae, Cyperaceae) – Phylogeny, Biogeography and Diversification Patterns**
- 11:15 Naczi, Robert F. C. - **A New Floristic Treatment of Cyperaceae for Northeastern U.S.A. and Adjacent Canada: Changes since Gleason & Cronquist (1991), Reasons for Changes, and Conservation**
- 11:30 Bures, Petr - **The Evolution of Genome Size and Base Composition in Cyperid Clade (Poales)**
- 11:45 Bauters, Kenneth - **Evolution and Molecular Phylogeny of the Genus *Scleria***
- 12:00 Smets, Erik F. - **Structure and Development of the Gynoecium in Cyperaceae**

Poales: Early Poales

McGinley Center, Faculty Lounge

Early-diverging Poales  
session 2

- 11:00 Trovó, Marcelo - **Evolution and Biogeography of Neotropical Eriocaulaceae**
- 11:15 Echternacht, Livia - **Comanthera Phylogeny (Eriocaulaceae): Radiation and Micro-Endemism on the Brazilian Highlands**
- 11:30 Cury, Graziela - **Anatomical Analysis in the Taxonomic Study of Xyridaceae**
- 11:45 Cury, Graziela - **Anatomical Evidences of the Meristematic Activity of the Endodermis and Pericycle in the Primary Thickening of *Xyris* L. (Xyridaceae)**
- 12:00 Campbell, Lisa M. - **Xyridaceae Phylogeny and Systematics: Current Status and Future Perspectives**

12:30-14:00 Lunch - McGinley Center



Thursday, July 11

Dioscoreaceae	Keating Hall, Auditorium
Bridging Basic and Applied Research in Dioscoreaceae	
session 1	

- 8:45 Raz, Lauren - **Economic Botany of *Dioscorea* in the 21st Century and a New Phylogenetic Framework for Applied Research**
- 9:15 Couto, Ricardo S. - **Overview of Diversity in Brazilian *Dioscorea* and a Brief Summary of Active Areas of Applied Research in Brazil**
- 9:30 Araújo, Diogo - **Historical and Modern Perspectives on *Dioscorea* Systematics in Brazil with Emphasis on the Role of Anatomical Studies**
- 9:45 Walls, Ramona - **Phylogenetic Niche Conservatism of Mexican Wild Yams Linked to Conservatism of Leaf Functional Traits**
- 10:00 Hang, Yueyu - **A Phylogenetic Analysis of Dioscoreaceae Based On Morphological Data of the Leaf Venation**
- 10:15 Sun, Xiaoqin - **Taxonomic Revision of Sect. *Opsophyton* (*Dioscorea*) From China**

Contributed Papers	McGinley Center, Faculty Lounge
session 1	

- 9:15 Bouchenak-Khelladi, Yanis - **A Revised Evolutionary History of Poales**
- 9:30 Schütz, Nicole - **Systematics of *Deuterocohnia* (Bromeliaceae)**
- 9:45 Wagner, Natascha - **Contrasting Patterns of Nuclear and Plastid Data in Subfamily Pitcairnioideae S.Str. (Bromeliaceae)**
- 10:00 Müller-Doblies, Dietrich - **An Overdue Change at Family Level in APG III (2009): The Accepted Return of Sparganiaceae into Typhaceae 222 Years after Engler's Effective Segregation from Typhaceae**
- 10:15 Ito, Yu - **Phylogeny, Habitat Transition, and Biogeography of an Aquatic Genus *Sparganium* (Typhaceae)**

Thursday, July 11

Cyperaceae: Cariceae

O'Hare Hall, O'Keefe Commons

Cyperaceae Tribe Cariceae: Phylogeny, Cytology, and the Origins of a Hyperdiverse Sedge Clade

- 8:30 Modesto Luceño - ***Carex* Clade *Schoenoxiphium* Revisited: A Molecular and Cytogenetic Approach**
- 8:45 Zhang, Shuren - **Molecular Systematics of *Kobresia* with Implications for Phylogeny of Caricoid Clade**
- 9:00 Hipp, Andrew L. - **Phylogeny, Classification, and Niche Evolution in the *Vignea* Clade**
- 9:15 Hoffmann, Matthias H. - **Species Recruitment and Evolution of Arctic *Carex***
- 9:30 Marcial Escudero - ***Carex scoparia* , a Model for Understanding Chromosome Diversification and Evolution in Holocentric Organisms**
- 9:45 Ford, Bruce A. - **Sedge Hunting in Vietnam: Species Discoveries and Insights into the Origin of *Carex* (Cyperaceae)**
- 10:00 Waterway, Marcia J. - **Evolution and Diversification in Primarily Forest Clades of *Carex* (Cyperaceae) From Eastern North America and Eastern Asia**
- 10:15 Hoshino, Takuji - **Phylogeny of East Asian Primitive *Carex* Section *Siderostictae* , Based On DNA Sequences and Cytological Data**

Iridaceae

Walsh Library, Flom Auditorium

Diversity and Evolution of Pollination and Reproductive Systems - Focus on Iridaceae

- 9:00 Chauveau, Olivier - **Asymmetric Specialization: A Common Feature in Plant-Pollinator Interactions among South American Iridaceae?**
- 9:30 Nadot, Sophie - **Evolutionary Trends in Oil Pollination of New World Species of Iridoideae**
- 10:00 Rodríguez, Aarón - **Geographic Distribution and Species Richness of the North American Tigridieae (Iridaceae)**

Thursday, July 11

10:30-11:00 Coffee Break - McGinley Center

Dioscoreaceae	Keating Hall, Auditorium
Bridging Basic and Applied Research in Dioscoreaceae	
session 2	

- 11:00 Abebe, Wendawek - **Genetic Structure and Species Delimitation in the Cultivated and Wild Guinea Yams (*Dioscorea* Species) from South and Southwest Ethiopia as Determined by Morphological, AFLP and SSR Markers**
- 11:15 Marmolejo, Daniel C. - **The Cultural Importance of the American Yam (*Dioscorea trifida*) in the Colombian Amazon**
- 11:30 Raz, Lauren - **Renewed Pharmacological Interest In *Dioscorea* : A Case Study From Colombia**
- 11:45 Wilkin, Paul - **From Seasonal Forest to Succulent Karoo: Diversity in the African Perennial-Tubered Clade of *Dioscorea* L.**

Contributed Papers	O'Hare Hall, O'Keefe Commons
session 2	

- 11:00 Saarela, Jeffery M. - **Molecular Phylogenetics of *Bromus* (Poaceae: Pooideae: Bromeae) Based on Nuclear Ribosomal DNA Sequence Data (ITS and ETS), with a Focus on Section *Bromopsis***
- 11:15 Birch, Joanne L. - **Evolutionary History of *Poa* (Poaceae Tribe Poeae) In the Australasian-Malesian Region**
- 11:30 Fabillo, Melodina - **Systematics of *Tripogon* (Poaceae: Chloridoideae) Using Morphological and Molecular Data, With Emphasis on the Australian Taxa**
- 11:45 Hunt, Harriet V. - **A New World Genome in an Old World Cereal? Cytological and DNA Sequence Evidence for Genome Relationships in Proso Millet (*Panicum miliaceum*) and Its Relatives**
- 12:00 Yadav, U. S. - **Genus *Pancratium* in Peninsular India with Notes on Natural Triploids in *P. Triflorum***

Thursday, July 11

Contributed Papers  
session 3

Walsh Library, Flom Auditorium

- 11:30 Maretta Colasante - **Problems Concerning the Biodiversity and Distribution of Iridaceae in Italy**
- 11:45 Tucker, Gordon C. - **Diversity and Biogeography of Cyperaceae in China**
- 12:00 Gehrke, Berit - **Restrictions to Distribution Patterns in the Cosmopolitan Plant Group Cyperaceae**
- 12:15 Wong Sin Yeng - **Radiation 'Gone Mad' in Schismatoglottideae (Araceae) on Borneo**

Contributed Papers  
session 4

McGinley Center, Faculty Lounge

- 11:00 Diaz, Amalia - **Biogeography of Eriocaulaceae (Poales) in Northern South America**
- 11:15 Briggs, Barbara G. - **Welcome Centrolepidaceae, As a Subfamily of Restionaceae (Poales)?**
- 11:30 Wilson, Karen L. - **Resolution of the Phylogenetic Position and Diversity of the *Tetraria capillaris* Complex (Cyperaceae, Schoeneae): Evidence for a New Genus of Eleven Species**
- 11:45 Spalink, Daniel - **Phylogeny Reveals a Persisting Polyphyly in the Bulrushes (*Scirpus*, Cyperaceae): Implications for a Long-Troubled Taxonomy and Insights into Bulrush Diversification**

12:30-14:00 Lunch - McGinley Center

Thursday, July 11

Phylogenomics	Keating Hall, Auditorium
Genome Evolution Across the Monocot Phylogeny	
session 1	

- 14:00 DeSalle, Robert - **New Ways to Squeeze Function From Sequences**
- 14:30 dePamphills, Claude - **Large-Scale Transcriptome Sequencing and Phylogenetic Hypotheses for Monocots Based on Analyses of 970 or More Low Copy Nuclear Genes**
- 15:00 McKain, Michael R. - **Phylogenetic Placement of Polyploid Events in the History of Monocots Using Transcriptomics**

Contributed Papers	O'Hare Hall, O'Keefe Commons
session 5	

- 14:00 Jung Sung Kim - **Dynamics of the IGS region between *trn H* and *psb A* of Liliales implying IR expansion to LSC**
- 14:15 Yadav, R. Shrirang - **Cytotaxonomical Studies in the Genus *Crinum* in India**
- 14:30 Yadav, Usha S - **Karyomorphological Studies in the Genus *Dipcadi* (Asparagaceae) in India**
- 14:45 González-Elizondo, María Socorro - **Karyotype Characterization of Four Mexican Species of *Schoenoplectus* (Cyperaceae) and First Report of Polyploid Mixoploidy for the Family**
- 15:00 Zedek, Frantisek - **Holokinetic Drive in the Karyotype Evolution of Monocots**
- 15:15 Wöhrmann, Tina - **Population Genetics of *Fosterella rusbyi* (Bromeliaceae)**

Thursday, July 11

Contributed Papers  
session 6

Walsh Library, Flom Auditorium

- 14:00 Carlsen, Mónica M. - **Using Next-Gen Sequencing to Improve Phylogenetic Resolution in a Rapid Radiation of Species, *Anthurium* (Araceae), Preliminary Data**
- 14:15 Loss-Oliveira, Letícia - **From Amazon Basin towards to Atlantic Forest: Insights on the Evolution of *Philodendron* (Araceae)**
- 14:30 Sakuragui, Cássia M. - **Evolution of *Philodendron* Subg. *Meconostigma* : From Open Areas to Forests?**
- 14:45 Ito, Yu - **Phylogeny and Biogeography of an Aquatic Genus *Potamogeton* (Potamogetonaceae)**

Geophytes

McGinley Center, Faculty Lounge

Heterogeneous Habitats: Focusing on the Role of Geophytes

session 1

- 14:00 Jones, Cynthia S. - **Axes of Functional Variation within the Geophytic Growth Form**
- 14:30 Sosa, Victoria - **Evolution of Life Forms in Tribe Epidendreae (Orchidaceae): Are Geophytes Associated to Dry Forests?**
- 15:00 Birch, Joanne L. - **The Astelioid Clade (Asparagales): An Investigation of Geophytism, Morphology, and Habitat Diversity in a Phylogenetic Context**

15:30-16:00 Coffee Break - McGinley Center

Thursday, July 11

Phylogenomics Genome Evolution Across the Monocot Phylogeny session 2	Keating Hall, Auditorium
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- 16:00 Leitch, Ilija, J. - **Genome Size Diversity and Obesity in Monocots – Insights from Next Generation Sequencing**
- 16:30 Vaughn, Justin N. - **Mixmaster DSB: The Origin and Repair of Double-Strand Breaks in Grass Genome Evolution**
- 17:00 Wessler, Susan R. - **How a Success Transposable Element Rapidly Amplifies and Diversifies the Genome without Killing Its Host**

Contributed Papers session 7	O'Hare Hall, O'Keefe Commons
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- 16:00 Gallaher, Timothy J. - **The Evolution of Dispersal Syndromes in the Pandanaceae (Pandanales)**
- 16:15 Lim, Gwynne S. - **Taxonomy, Systematics and Reproductive Biology of *Tacca* (Dioscoreaceae)**
- 16:30 Carreño, Javier I. - **Pollination Ecology of *Ceroxylon sasaimae***
- 16:45 Castaño, Felipe - **The Tribe Chamaedoreae as a Case Study for the Evolution of Sexual Systems in Palms**
- 17:00 Romanov, Mikhail S. - **Fruit Character Evolution in Palms**
- 17:15 Xanthos, Martin - **Interpretation and Taxonomic Utility of the Fruit in *Coleochloa* (Cyperaceae)**
- 17:30 Jiménez-Mejías, Pedro - **Towards an Accurate Taxonomic Interpretation of *Carex* Fossil Fruits (Cyperaceae): A Retrospective and Prospective View**

Thursday, July 11

Geophytes

McGinley Center, Faculty Lounge

Heterogeneous Habitats: Focusing on the Role of Geophytes

session 2

- 16:00 Cameron, Kenneth; Fu, Chengxin - **Diversification of *Smilax* (Smilacaceae, Liliales), A Non-Xeric Geophyte**
- 16:30 Christenhusz, Maarten J. M. - **Tiptoe Through the Tulips: Phylogeny, Classification and Nomenclatural History of *Tulipa* (Liliaceae).**
- 17:00 Wilson, Carol A. - **Shifts in Geophytic Form across Non-Uniform Habitats are Linked to Plastid Genome Structural Changes and Rates of Diversification in *Iris***



## Friday, July 12

Character Analysis	Keating Hall, Auditorium
Homology and Character Conflict: Case Studies in Monocot Systematics session 1	

- 9:30 Bateman, Richard M. - **Is There a Role for Deep Homology in the Evolutionary Shallows?**
- 10:00 Sokoloff, Dmitry D. - **Cotyledon Diversity in Angiosperms: Why are Monocots Different?**

Bromeliaceae	O'Hare Hall, O'Keefe Commons
Phylogenetics of Bromeliaceae: Novel Approaches at Various Taxonomic Levels	

- 8:30 Givnish, Thomas J. - **Adaptive Radiation, Historical Biogeography, Correlated and Contingent Evolution, and Net Rates of Diversification in Bromeliaceae**
- 8:45 Zizka, Georg - **Systematics, Evolution and Biogeography of Bromelioideae (Bromeliaceae)-New Results**
- 9:00 Leme, Elton M. C. - **New Generic Circumscription and Phylogeny of the Cryptanthoid Complex (Bromeliaceae: Bromelioideae) Based on Neglected Morphological Traits**
- 9:15 Aguirre-Santoro, Julián - **Systematics and Biogeography of the *Ronnbergia* Clade (Bromeliaceae), a Case of Diversification Interconnecting Three Neotropical Biodiversity Hotspots**
- 9:30 Barfuss, Michael H. J. - **Systematics and Evolution of Tillandsioideae (Bromeliaceae)**
- 9:45 Pinzón, Juan P. - **Phylogenetics and Evolution of *Tillandsia* Subgenus *Tillandsia* (Tillandsioideae, Bromeliaceae)**
- 10:00 Sidoti, Brian J. - **Phylogenetics of the *Tillandsia fasciculata* Sw. Complex (Bromeliaceae)**
- 10:15 Grant, Jason - **Biodiversity and Molecular Phylogeny of the Bromeliad Genus *Werauhia* (Bromeliaceae)**

Friday, July 12

Contributed Papers  
session 8

McGinley Center, Faculty Lounge

- 8:30 Hardy, Nazli W. - **Use of the Undergraduate Classroom to Advance an Emerging Paradigm in the Study and Conservation of Biodiversity**
- 8:45 Vorontsova, Maria S. - **Mad Mysterious Madagascar: The Last Gap in Global Grass Taxonomy**
- 9:00 Barkworth, Mary E. - **Connecting People and Herbaria to Develop a Global Resource: An Example Using the Hordeae**
- 9:15 Vorontsova, Maria S. - **Global Consensus Classification of the Grasses: A Grassbase Perspective. How can we Combine our Knowledge and Present it Online?**
- 9:30 Spalink, Daniel - **Using Regional Flora Barcode Databases For Large-Scale Phylogenetic Reconstructions: A New and Improved Fossil-calibrated Phylogeny of the Sedge Family**
- 9:45 Madriñán, Santiago - **Páramo Plants Online**

10:30-11:00 Coffee Break - McGinley Center

Character Analysis

Keating Hall, Auditorium

Homology and Character Conflict: Case Studies in Monocot Systematics

session 2

- 11:00 Scotland, Robert W. - **In a World with a Relatively Small Fraction of 'Good' Morphological Characters, How do We Best Discover Them?**
- 11:30 Petersen, Gitte - **Mitochondrial Data – Bad is Never Good until Worse Happens**
- 12:00 Davis, Jerrold I. - **Conflict and Congruence among Data Partitions in an Analysis of Monocot Relationships**

Friday, July 12

Mycoheterotrophs	McGinley Center, Faculty Lounge
Mycoheterotrophy	

- 11:00 Merckx, Vincent S.F.T. - **Mycoheterotrophy in Monocots: Advances and Challenges**
- 11:15 Mennes, Constantijn B. - **New Insights in the Evolutionary History of Triuridaceae (Pandanales)**
- 11:30 Lam, Vivienne K.Y. - **Phylogenetics and Plastid Genome Evolution of Monocot Mycoheterotrophs**
- 11:45 Freudenstein, John V. - ***Corallorhiza* as a Model for Understanding Evolution in Mycoheterotrophs**
- 12:00 Leebens-Mack, Jim L. - **Phylotranscriptomic Analysis of Mycoheterotrophic and Non-Mycoheterotrophic Lineages in the Pandanales and Dioscoreales**
- 12:15 dePamphilis, Claude W. - **The Parasitic Plant Genome Project**

12:30-14:00 Lunch - McGinley Center

Character Analysis	Keating Hall, Auditorium
Homology and Character Conflict: Case Studies in Monocot Systematics session 3	

- 14:00 Vergara-Silva, Francisco - **Character Conflict in Triuridaceae: An Evo-Devo, Hierarchical Homology Perspective**
- 14:30 Specht, Chelsea D. - **Homoplasy and Emerging Complexity in the Evolution of the Zingiberales**

15:30-16:00 Coffee Break - McGinley Center

Conference Closing	Keating Hall, Auditorium
16:00-17:30 Closing Address by Ole Seberg Selection of Venue for Monocots VI	

17:30 Closing Reception on O'Hare Hall Lawn