



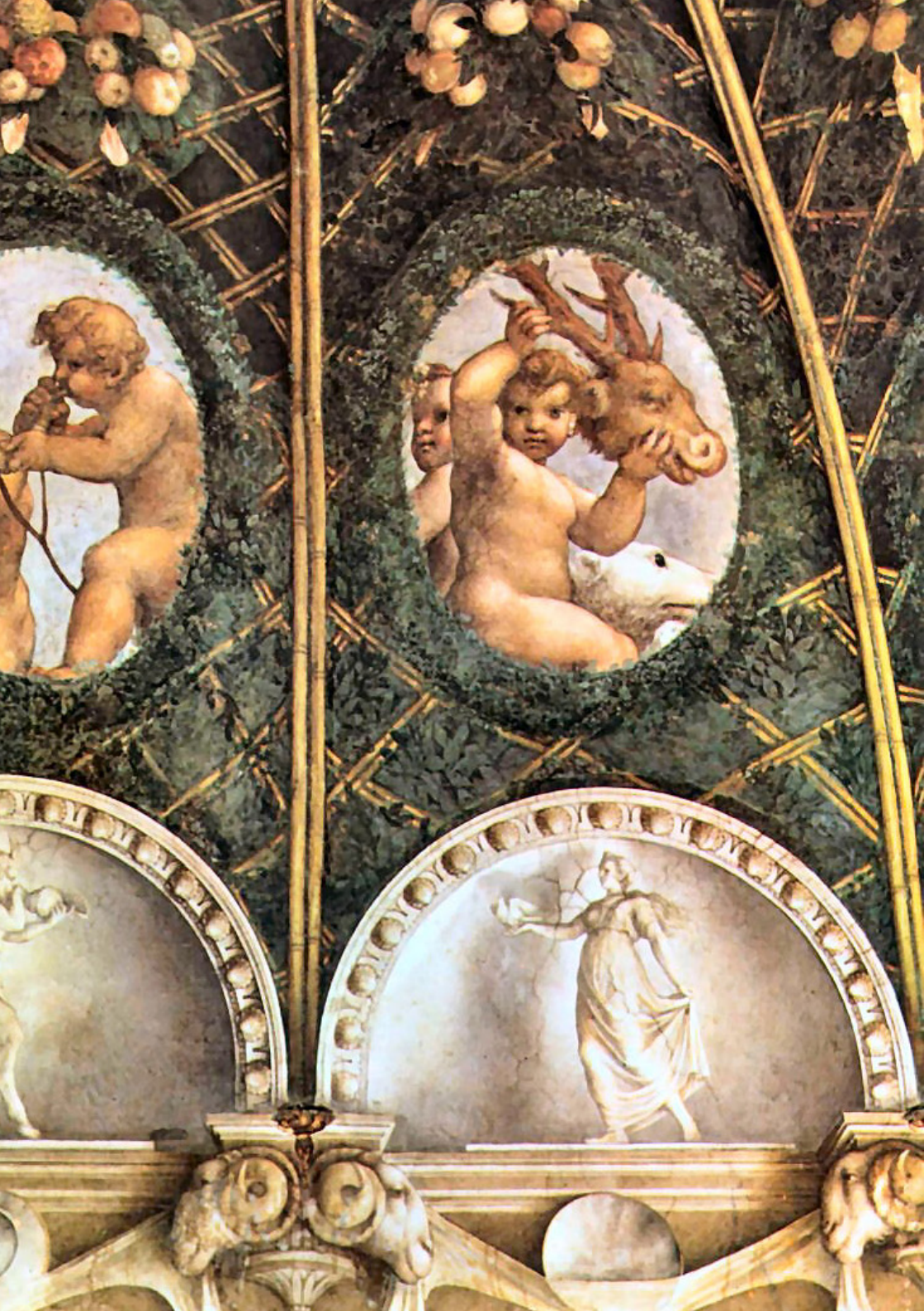
Glaucoma Research Society



GRS Meeting 2018

August 29-September 1

Parma, Italy



WELCOME MESSAGES

It is my pleasure to warmly welcome you to the Glaucoma Research Society meeting in Parma. The GRS is a vital research organization and its biennial meeting provides delegates a rich and valuable environment for scientific discourse.

The Program Committee, co-chaired by Hani Levkovitch-Verbin and Fotis Topouzis, has composed a superb program that will be the nucleus for intensive discussions. I want to draw your attention to the Glaucoma Definition workshop that will take up the bulk of the program on August 30. With this workshop, the GRS has an excellent opportunity to make an important contribution to the ophthalmology and vision science community.

The Executive is especially grateful to Stefano Gandolfi, our meeting host, who has made enormous efforts to ensure we have the best possible meeting environment and a wonderful social program. We are also indebted to the meeting organizer, OIC, and the excellent staff in charge of the operational details.

Finally, I want to strongly encourage all members to attend the Business Meeting on August 31. Going forward, the GRS has many important decisions to make for which your input is critical.

I look forward to seeing you in Parma!

Balwantray Chauhan
GRS President

I am glad and honoured to welcome the GRS to my home town. When we decided to present the nomination of Parma, we had a motto: "the walking-distance place for a family-feeling meeting." Parma will embrace you in its historical medieval core, where you will be able to reach any destination within just a few minutes walk. Every day, upon completion of our sessions in the "Aula Magna," of one of the most ancient Italian Universities, we discover Parma within its territory. After experiencing its world of culture, music and history, you will feel like discovering a little and genuine pearl in an unsuspected oyster. Even the more conventional shopping time will be quite an experience after strolling through the multiple artwork shops and "botteghe" lined along the narrow lanes of the city center. And (last but not least), we will tickle your taste buds with our tempting cuisine throughout the meeting, from the buffets to the dinners.

Benvenuti a Parma.

Stefano Gandolfi
Local Host



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EXECUTIVE COMMITTEE

President

Balwantray Chauhan

Secretary

Ki Ho Park

Treasurer

Anja Tuulonen

Past President

Franz Grehn

Membership Committee Chair

David Garway-Heath

Programme Committee Co-Chairs

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Members-at-Large

Ivan Goldberg

Keith Martin

Linda Zangwill

Local Host

Stefano Gandolfi

Under the Auspices of



Comune di Parma



**UNIVERSITÀ
DI PARMA**



SPEAKERS AND MODERATORS

Makoto Aihara, Japan

Wallace L.M. Alward, USA

Tin Aung, Singapore

Augusto Azuara-Blanco, United Kingdom

Claude F. Burgoyne, USA

Joseph Caprioli, USA

Balwantray Chauhan, Canada

George Cioffi, USA

Jamie Craig, Australia

Jonathan G. Crowston, Australia

Adriana Di Polo, Canada

C. Ross Ethier, USA

John Fingert, USA

Paul J. Foster, United Kingdom

David S. Friedman, USA

Stefano Gandolfi, Italy

David Garway-Heath, United Kingdom

Michael Girard, Singapore

Ivan Goldberg, Australia

Franz Grus, Germany

Neeru Gupta, Canada

Anders Heijl, Sweden

Donald C. Hood, USA

Henry Jampel, USA

Peng T. Khaw, United Kingdom

Anthony Khawaja, United Kingdom

Tae-Woo Kim, Korea

Christopher Leung, Hong Kong

Leonard Levin, Canada

Hani Levkovitch-Verbin, Israel

Jeffrey M. Liebmann, USA

Vijaya Lingam, India

Keith Martin, United Kingdom

Felipe Medeiros, USA

James E. Morgan, United Kingdom

Toru Nakazawa, Japan

Kouros Nouri-Mahdavi, USA

Ki Ho Park, Korea

Louis R. Pasquale, USA

Norbert Pfeiffer, Germany

Harry Quigley, USA

Pradeep Y. Ramulu, USA

Alan Robin, USA

Ursula Schlötzer-Schrehardt, Germany

Leopold Schmetterer, Singapore

Joel S. Schuman, USA

Ramanjit Sihota, India

Ravi Thomas, Australia

Fotis Topouzis, Greece

Anja Tuulonen, Finland

Ananth C. Viswanathan, United Kingdom

Robert N. Weinreb, USA

Janey L. Wiggs, USA

M. Roy Wilson, USA

Linda Zangwill, USA

Wednesday, August 29		Thursday, August 30		Friday, August 31	Saturday, September 1
		08.30-10.30 Session 1: Glaucoma genetics – Present and future	08.00-10.00 Session 4: Rescue the optic nerve – Current status and future directions	08.30-10.10 Session 7: Statistical modeling to predict or detect progression	
		10.30-11.00 Break	10.00-10.30 Break	10.10-10.40 Break	
		11.00-12.40 Session 2: Defining glaucoma in the 21 st century	10.30-11.00 Session 5: Goldmann Lecture	10.40-12.00 Session 8: Visual field imaging and endpoints in clinical trials	
		12.40-13.40 Lunch	11.00-12.20 Session 6: Optic nerve recovery and vulnerability to injury	12.00-13.00 Lunch	
15.00-18.30 Registration desk opening		13.40-17.15 Session 3 - Workshop: Defining glaucoma in the 21 st century	12.20-13.10 Business Meeting	13.00-14.40 Session 9: The future of imaging – Next generation hardware and deep learning	
			13.10-14.10 Lunch	14.40-15.10 Break	
				15.10-16.50 Session 10: Patient related outcomes – Selection, standardization and implementation	
18.30- 20.30 Welcome Reception		17.15 Adjourn		16.50 Meeting Adjourns	



SESSION 1: GLAUCOMA GENETICS – PRESENT AND FUTURE

Chairs: **Louis R. Pasquale, Janey L. Wiggs**

- 08.30** POAG-GWAS - Current genomics and next steps
Janey L. Wiggs
- 08.50** PACG genomic associations and disease mechanism
Tin Aung
- 09.10** Exfoliation syndrome genomics - Contributions of common and rare variants
Ursula Schlötzer-Schrehardt
- 09.30** Big data and genomics - Studies from the UK Biobank
Paul J. Foster
- 09.50** Novel gene discovery for early-onset glaucoma
Jamie Craig
- 10.10** Normal tension glaucoma genes
John Fingert
- 10.30** *Break*

SESSION 2: DEFINING GLAUCOMA IN THE 21ST CENTURY

Chairs: **Hani Levkovitch-Verbin, Fotis Topouzis**

- 11.00** Why we need to reconsider a glaucoma definition for research
Harry Quigley
- 11.20** Defining functional damage
Balwantray Chauhan
- 11.40** Defining structural damage
Claude F. Burgoyne
- 12.00** Using cut-offs helps in standardization
Christopher Leung
- 12.20** Using cut-offs ignores normal variability and the different glaucoma phenotypes
M. Roy Wilson

- 12.40** *Lunch*

13.40 **SESSION 3 - WORKSHOP: DEFINING GLAUCOMA IN**
17.15 **THE 21ST CENTURY**

Chairs: **Harry Quigley, Ravi Thomas**

Introduction to Workshop (6 breakout groups with facilitator)
Harry Quigley

Group 1: How many levels/categories should there be in the definition of structural damage?

Facilitator: **Vijaya Lingam**
Sala del Consiglio

Group 2: What is the role of clinical examination of the optic disc and retina?

Facilitator: **Ramanjit Sihota**
Aula dei Filosofi

Group 3: What OCT features should be in the definition?

Facilitator: **Ki Ho Park**
Aula dei Cavalieri

Group 4: What visual field features should be in the definition?

Facilitator: **Stefano Gandolfi**
Aula 1

Group 5: Do OCT and visual field features have to match?

Facilitator: **George Cioffi**
Aula 2

Group 6: What methods should be used to validate the definition system?

Facilitator: **Peng T. Khaw**
Aula della Bandiera

INDIVIDUAL GROUP PRESENTATIONS AND DISCUSSIONS

17.15 Adjourn



SESSION 4: RESCUE THE OPTIC NERVE – CURRENT STATUS AND FUTURE DIRECTIONS

Chairs: **Keith Martin, Norbert Pfeiffer**

- 08.00** Scleral stiffening and glaucoma – A novel approach
C. Ross Ethier
- 08.20** Seeing is believing – Live imaging of microvascular pathology in glaucoma
Adriana Di Polo
- 08.40** Gene therapy for rescuing RGCs in glaucoma
Keith Martin
- 09.00** Learning from the brain – Novel approaches in neurodegeneration
Leonard Levin
- 09.20** Proteomic approach for RGC survival
Franz Grus
- 09.40** Barriers for neuroprotection in glaucoma
Hani Levkovitch-Verbin
- 10.00** *Break*

SESSION 5: GOLDMANN LECTURE

- 10.30** Introduction
Balwantray Chauhan
- 10.35** My 30-year journey with a myocilin glaucoma family: from clinic to lab
Wallace L.M. Alward

SESSION 6: OPTIC NERVE RECOVERY AND VULNERABILITY TO INJURY

Chairs: **Jonathan G. Crowston, Neeru Gupta**

- 11.00** Managing patients with very vulnerable nerves – glaucoma in patients with low presenting IOP
Makoto Aihara
- 11.20** Neuroplasticity in the inner plexiform layer
James E. Morgan
- 11.40** Visual field improvement in the clinic – What is fact and what is fiction?
Joseph Caprioli
- 12.00** Can RGC vulnerability to injury be modified?
Jonathan G. Crowston
- 12.20** **BUSINESS MEETING**
- 13.10** *Lunch*



SESSION 7: STATISTICAL MODELING TO PREDICT OR DETECT PROGRESSION

Chairs: **David Garway-Heath, Linda Zangwill**

- 08.30** Statistical modeling of the retinal nerve fiber layer to predict progression
Linda Zangwill
- 08.50** Predictors for glaucoma and glaucoma progression
Anthony Khawaja
- 09.10** Identification of fast progressors
Kouros Nouri-Mahdavi
- 09.30** Research approaches and opportunities
Donald C. Hood
- 09.50** From statistics to chairside in the exam room
Henry Jampel
- 10.10** *Break*

SESSION 8: VISUAL FIELD IMAGING AND ENDPOINTS IN CLINICAL TRIALS

Chairs: **Anders Heijl, Felipe Medeiros**

- 10.40** When is a biomarker a valid surrogate endpoint? Considerations for clinical trials in glaucoma
Felipe Medeiros
- 11.00** Event- versus trend-based progression endpoints in clinical trials – Clinical relevance and sample size considerations
David Garway-Heath
- 11.20** Applications and limitations of visual field endpoints
Ananth C. Viswanathan
- 11.40** Applications and limitations of imaging endpoints
Jeffrey M. Liebmann
- 12.00** *Lunch*

SESSION 9: THE FUTURE OF IMAGING – NEXT GENERATION HARDWARE AND DEEP LEARNING

Chairs: **Leopold Schmetterer, Robert N. Weinreb**

- 13.00** Why do we need novel imaging techniques in glaucoma?
Toru Nakazawa
- 13.20** Next generation OCT
Joel S. Schuman
- 13.40** Deep learning for OCT data
Michael Girard
- 14.00** Potential of OCT angiography
Tae-Woo Kim
- 14.20** Hurdles in implementing deep learning
Leopold Schmetterer
- 14.40** *Break*

SESSION 10: PATIENT RELATED OUTCOMES – SELECTION, STANDARDIZATION AND IMPLEMENTATION

Chairs: **David S. Friedman, Pradeep Y. Ramulu**

- 15.10** What patient related outcomes (PRO) tell us that clinical measures cannot
Ivan Goldberg
- 15.30** Why are there so many PROs
Alan Robin
- 15.50** Analyzing PROs - Are we doing a good job?
Anja Tuulonen
- 16.10** A universal PRO is possible, and this is what it would look like
Augusto Azuara-Blanco
- 16.30** A universal PRO is impossible because of these challenges
Pradeep Y. Ramulu
- 16.50** Meeting adjourns

Parma

Farnese Theatre

Caffetteria Toschi
Meeting Point

Hotel Mercure Parma Stendhal

Parco
Ducale

Parma National Gallery

Parma Cathedral

Corale Verdi Restaurant

Parma Baptistery

Park Hotel Pacchiosi

University of Parma
Meeting Venue

Hotel ibis Styles Parma Toscanini

Piazza
della Pace

Viale Mentana

Borgo Retto

Borgo Pietro Giordani

Borgo del Correggio

Strada della Repubblica

Viale Paolo Toschi

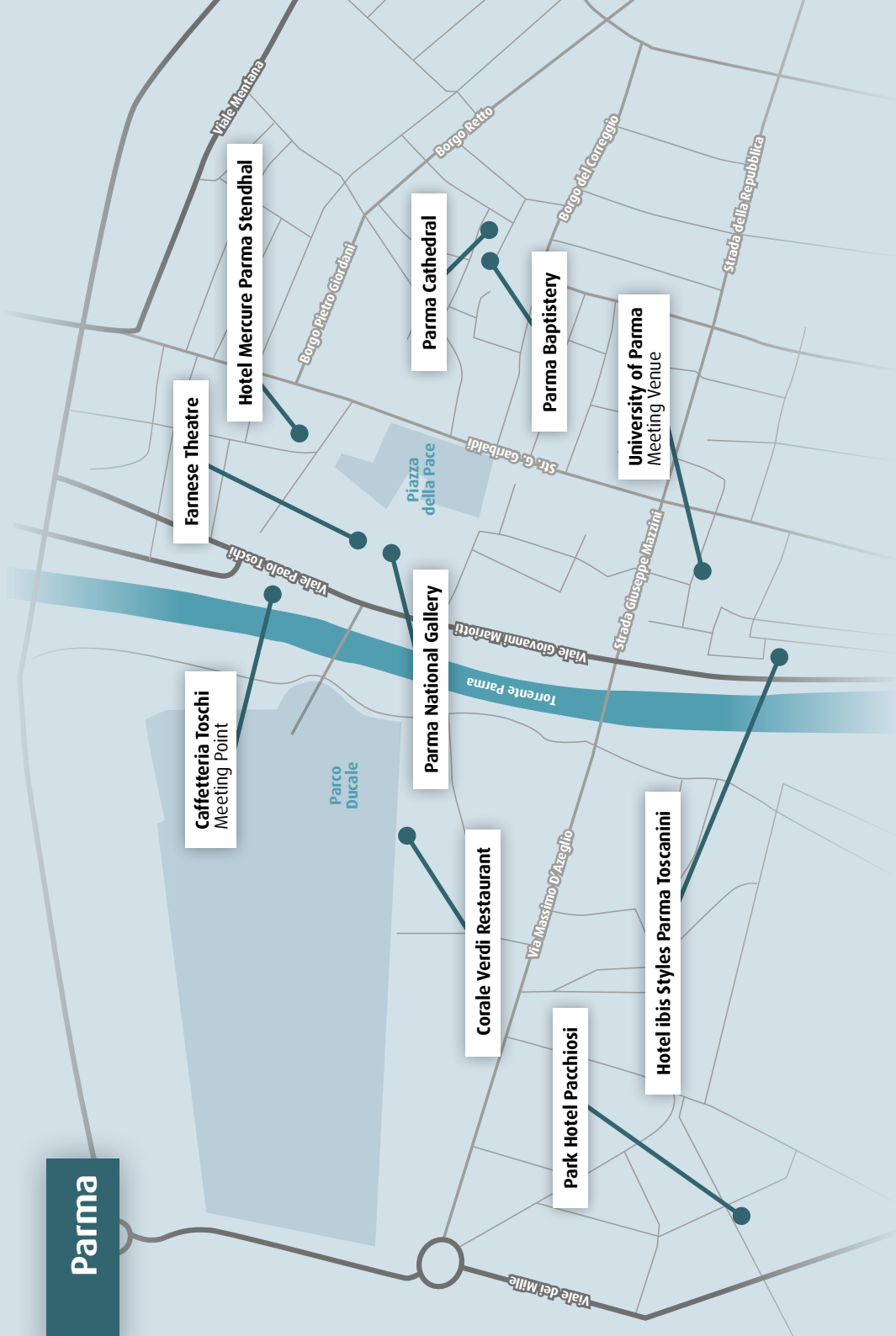
Str. G. Garibaldi

Viale Giovanni Marfotti
Torrente Parma

Strada Giuseppe Mazzini

Via Massimo D'Azeglio

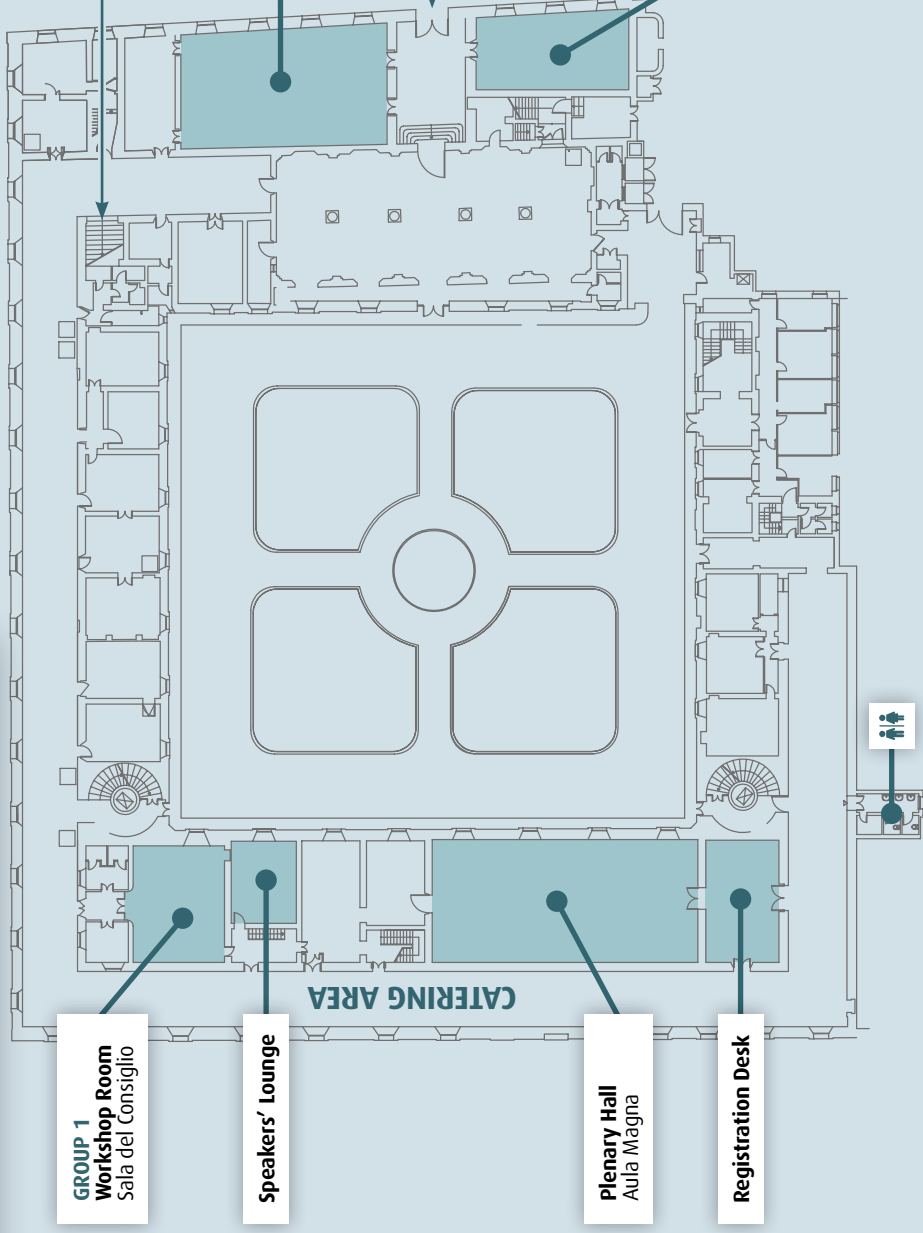
Viale del Mille



Meeting Venue – Ground floor

TO WORKSHOP ROOMS
2nd FLOOR

GROUP 4 - Aula 1
GROUP 5 - Aula 2
GROUP 6 - Aula della Bandiera



GROUP 1
Workshop Room
Sala del Consiglio

Speakers' Lounge

Plenary Hall
Aula Magna

Registration Desk

GROUP 2
Workshop Room
Aula dei Filosofi

GROUP 3
Workshop Room
Aula dei Cavalieri



GENERAL INFORMATION

Meeting Location

The GRS 2018 meeting will be held in the main building of the University of Parma. The University is located in the heart of the city, just a few minutes by foot from the Parma central train station.

University of Parma

Via Università, 12 - 43121 Parma (Italy)
en.unipr.it

Meeting Rooms

All Main Sessions will be held in the **Aula Magna** (Plenary Hall), while the Workshop scheduled on Thursday will take place in the following rooms:

- Group 1: Sala del Consiglio (ground floor)
- Group 2: Aula dei Filosofi (ground floor)
- Group 3: Aula dei Cavalieri (ground floor)
- Group 4: Aula 1 (2nd floor)
- Group 5: Aula 2 (2nd floor)
- Group 6: Aula della Bandiera (2nd floor)

Registration Desk

The Organising Secretariat Desk will be located on the ground floor, in the room next to the main meeting room (Aula Magna). It will be open for registration and information according to the following schedule:

- Wednesday, August 29: 15.00 - 20.30
- Thursday, August 30: 07.30 - 17.00
- Friday, August 31: 07.30 - 14.00
- Saturday, September 1: 07.30 - 17.00

Please collect the meeting kit at the Secretariat Desk and wear your name badge during the scientific sessions and social activities.

Certificate of Attendance

The certificate of attendance is included in the congress kit.

GENERAL INFORMATION

Slide Preparation and Preview

You can preview your slides in the Aula Magna, the main meeting room.

Speakers may use PowerPoint (for Windows or Macintosh) or Keynote (for Macintosh).

If you are a PowerPoint user, your presentation will be transferred to a podium Windows computer.

If you are a Keynote user, you are requested to present from your own computer.

Please ensure you bring the appropriate cables for presentation.

Speakers are advised to check their presentations beforehand to ensure that videos or special animations run correctly. Presentations must be handed to the AV technicians at least two hours before the start of the session.

Speakers' Lounge: Sala Prorettori, next to the Aula Magna.

Catering

Coffee breaks and buffet lunches are included in the registration fee.

All the delegates and registered accompanying persons are welcome to join the Social Events included in the registration fee (please see Social Events section for further information).

Dress code

The dress code will be informal for all sessions and social events.

Insurance

The organisers are not responsible for individual medical, travel or personal insurance. Registrants and accompanying persons should arrange their own coverage.

Contact Information

For assistance, please contact the Organising Secretariat:



OIC srl - Organizzazione Internazionale Congressi
Viale Giacomo Matteotti, 7 - 50121 Florence (Italy)
Tel. +39 055 50351 - grs2018@oic.it

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SOCIAL EVENTS

WEDNESDAY, AUGUST 29

Welcome Reception

18.30-20.30

University of Parma

GRS welcomes all registered delegates and accompanying persons to this wonderful evening, a great opportunity to mingle with the other meeting delegates while enjoying wonderful Italian food, drinks and entertainment.

THURSDAY, AUGUST 30

Parma City Tour including Dinner

18.00-23.00

Join us for a walking tour through the chief attractions of Parma: the splendid Romanesque Cathedral, frescoed by Correggio, and the octagonal Baptistry, a Benedetto Antelami's architectural and sculptural masterpiece.

Groups up to 30 people will be formed upon arrival to enjoy the visit of the monuments, which will be exceptionally opened till 19.30 just for GRS members.

The walking tour ends up the Corale Verdi restaurant, where participants will taste typical flavors of local cuisine while being entertained by the soothing notes of most famous opera arias.

- 18.00 Meeting point in front of Caffetteria Toschi (Viale Toschi, 2 - 43121 Parma)
- 18.15 Transfer from the Park Hotel Pacchiosi to the meeting point
- 20.00 Dinner at Corale Verdi Restaurant (Vicolo Asdente, 9 - 43125 Parma)

SOCIAL EVENTS

FRIDAY, AUGUST 31

Half-day Tour PM: Arts in Parma, visit to the National Gallery and Farnese Theatre

15.30-17.00

The tour will provide the opportunity to visit the National Gallery, situated in the Palazzo della Pilotta. The collections currently include works from the 13th to the 19th centuries, by several schools and masters, and the famous painting "la Scarmigliata" by Leonardo Da Vinci. The Farnese Theater, one of the most beautiful historical theaters in Italy, was built between 1618 and 1619 and rebuilt after World War II.

15.15 Transfer from the Park Hotel Pacchiosi to the meeting point

15.30 Meeting point in front of Caffetteria Toschi (Viale Toschi, 2 - 43121 Parma)

Optional half-day Tour including Dinner: Torrechiara Castle, Parma countryside and the Benedictine abbey Santa Maria della Neve

17.00-22.30

After the full immersion art tour offered to all registered participants, the tour will continue for those who booked the additional optional afternoon and evening tour. Italo Comelli, a local expert and Professor of Art History at the Università Popolare di Parma, will guide participants to discover the unique treasures nested at the Santa Maria della Neve Abbey.

17.00 Meeting point in front of Caffetteria Toschi (Viale Toschi, 2 - 43121 Parma)

SATURDAY, SEPTEMBER 1

Visit to Antica Corte Pallavicina: Parmesan Cheese and Culatello Ham Factory & Farewell Dinner

18.00-23.30

This excursion for all registered delegates and accompanying persons is a full immersion in the heart of the Parma countryside and its gastronomic tradition. You will enjoy an unforgettable experience discovering old secrets and unique flavors at Corte Pallavicina, a traditional farmhouse and restaurant, where you will discover the Culatello ham, the most refined and noble cold cuts of Parma tradition. This tour will take you to discover its magic, its curing process, its unique flavor lent by the humidity of fog. During the visit to Corte Pallavicina, you will also discover how milk is processed and transformed to make Parmigiano Reggiano PDO, a unique blend of flavors and nutritional properties. After the tour, participants will have dinner at the Corte Pallavicina Restaurant, awarded with a Michelin Star in 2011, which represents Parma's most refined and sophisticated cuisine, enhanced by the raw materials produced in the garden of the Old Pallavicina Court.

18.00 Meeting point in front of Park Hotel Pacchiosi (Str. Quartiere, 4 - 43125 Parma)

Organising Secretariat



OIC srl - Organizzazione Internazionale Congressi

Viale Giacomo Matteotti, 7

50121 Florence (Italy)

Tel. +39 055 50351

grs2018@oic.it

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