

PhO '99




**EOS Topical Meeting
on Physiological Optics**

**September 23 – 25
1999**

Wrocław, Poland

2nd Announcement and Call for Papers



Dear Colleagues and Friends

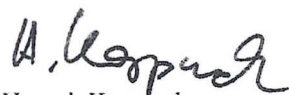
It is my great pleasure to invite you to participate in the EOS Topical Meeting on Physiological Optics to be held on September 23-25, 1999 in Wrocław. The venue of the Meeting is the Training Centre of the National Work Inspection, localised on the border of the Szczytnicki Park on the east side of the city. This scientific conference is a great occasion for meeting people, exchanging new ideas and for listening to distinguished colleagues. Submitted papers focus on the most modern and important developments in the areas of the optical aspects of the vision process. The Organising Committee makes every effort to ensure you appropriate scientific atmosphere and a pleasant stay in Wrocław during the Meeting.

I hope that EOS Meetings on Physiological Optics can continue in the future in other European countries and will become a platform to exchange ideas and achievements between researchers. I am convinced that the Meeting organised in Wrocław will enable participants to establish new contacts and further co-operation in the field of Physiological Optics.

As it was already mentioned in the first announcement two famous researchers in the field of Physiological Optics were closely associated with Wrocław in the past.

Vitello (1237-1290) has written the great *Perspectiva* including 10 chapters with 807 theorems on optics, physiology and vision. More than three hundreds years later Johannes Kepler recognised Vitello's work and has written his famous book *Ad Vitellionem Paralipomena* (in 1604), where he extended Vitello's achievements. A Czech scientist, Jan Evangelist Purkyně (1787-1869) was professor at the University of Wrocław (Breslau) for 27 years (1823-1850), where he came up with his greatest achievements in Physiology and Optics. That Purkyně got this position at Wrocław University was in part thanks to Johann Wolfgang von Goethe (1749-1832) and Alexander von Humboldt (1769-1859). Goethe was very much interested in optics, physiology and psychology of vision (his books "Beiträge zur Optik" - 1791, and "Farbenlehre" - 1810).

Looking forward to meeting you in Wrocław



Henryk Kasprzak

Conference Chair



Jan Evangelist Purkyně

Organizer:



WROCLAW UNIVERSITY OF TECHNOLOGY

Cooperating Organizations:



EUROPEAN OPTICAL SOCIETY

KBN - POLISH COMMITTEE FOR SCIENTIFIC RESEARCH.

PTF - POLISH PHYSICAL SOCIETY

Conference Chair:

Henryk Kasprzak, Wrocław University of Technology (Poland).

Co-chair:

Bernhard Rassow, University of Hamburg (Germany).

Program Committee:

Pablo Artal, Murcia University (Spain),

Klaus Biedermann, The Royal Institute of Technology (Sweden),

Neil Charman, Dept Optometry and Vision Sciences, UMIST (UK),

Christopher Hitzengerger, University of Vienna (Austria),

Eugeniusz Jagoszewski, Wrocław University of Technology (Poland),

Bolesław Kędzia, University of Medical Science in Poznań (Poland),

Vasyl Molebny, Institute of Biomedical Engineering, Kiev (Ukraine),

Florian Ratajczyk, Wrocław University of Technology (Poland),

Valery Tuchin, Saratov State University (Russia),

Wolfgang Wesemann, Cologne School of Optometry (Germany).

Topics of the Conference

- Cornea, tear film and contact lenses
- Crystalline lens and accommodation
- Retinal image, refraction and aberrations
- Adaptive optics and the human eye
- Visual perception
- Ophthalmic optics
- Optical and mechanical properties of eye tissues and artificial implants
- New ideas in optical aspects of vision
- Modern optical instrumentation in ophthalmology

Secretariat PhO'99 Address

Secretariat PhO'99
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Wrocław University of Technology
Wybrzeże Wyspiańskiego 27
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tel. (+48 71) 320 3613, 320 2592
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e-mail: pho@rainbow.if.pwr.wroc.pl
Internet: <http://www.if.pwr.wroc.pl/POG/conf>

Conference language

The official language of the Conference will be English.

Deadlines

- June 30, 1999 Early registration at normal rate
- June 30, 1999 Submission of manuscripts for the Digest of the Meeting
- June 30, 1999 Hotel reservation (booking form)
- Aug. 15, 1999 Last day for cancellation of registration fee

Scientific program

The schedule of scientific sessions:

- Thursday, September 23 at
9.00 – 13.00 – Session I
14.30 – 16.00 – Poster Session
- Friday, September 24 at
9.00 – 13.00 – Session II
14.30 – 17.30 – Session III
- Saturday, September 25 at
9.00 – 13.00 – Session IV

Opening ceremony

The opening ceremony will be held at the Aula Leopoldina of the Wrocław University on Thursday, September 23rd, at 17.00. At this occasion, a lecture on "Life and activity of J. E. Purkyně in Wrocław (Breslau)" will be given by Prof. T. Heimrath.

Invited lectures

It is our pleasure to announce that the Program Committee has invited the following lectures

- N. Chateau, Essilor Optique de Contact, Creteil, France:
VISUAL PERFORMANCE WITH ASPHERIC SOFT CONTACT LENSES
- N. Lopez-Gil, University de Murcia, Spain:
SPHERICAL ABERRATION AND COMA ON SPATIAL VISION
- G. E. Lowther, School of Optometry, Indiana University, USA:
SIMULTANEOUS MEASUREMENT OF ANTERIOR AND POSTERIOR
CORNEAL TOPOGRAPHY AND CORNEAL THICKNESS
- F. Schaeffel, University Eye Hospital Tübingen, Germany:
MYOPIA IN ANIMAL MODELS AND HUMANS: SYSTEMS ANALYSIS,
OPTICS AND BIOCHEMISTRY

Presentations

All invited papers, regular presentations and posters will be held in the Conference Building belonging to the Conference Centre. The time for oral presentations is 15 minutes, and 40 minutes for invited papers. Slide projector, overhead projector, VHS video and multimedia videoprojector with computer and MS Power Point are available. The space available for each poster is 100×100 cm.

The following papers have been accepted for presentation

1. K. R. Aggarwala, L. R. Stark, P. B. Kruger:
CHROMATIC ABERRATION STIMULATES ACCOMMODATION IN TWO COLOR DIRECTIONS
2. G. G. Akchurin, V. V. Bakutkin, E. Yu. Radchenko, V. V. Tuchin:
MEASUREMENT OF RETINAL VISUAL ACUITY IN PATIENTS WITH DIFFERENT TYPES OF CATARACT
3. G. G. Akchurin, V. V. Bakutkin, T. G. Kamenskih, T. M. Zemskova:
DYNAMIC RESPONSE OF THE HUMAN RETINA TO PULSED OPTICAL AND ELECTRICAL STIMULATION
4. A. Aragon, N. Lopez-Gil, P. Artal:
REAL - TIME DOUBLE-PASS SYSTEM TO STUDY THE DYNAMICS OF THE EYE'S OPTICAL PERFORMANCE
5. M. Arjona, C. Varon, J. Gispets, J. Pujol:
OPTICAL IMAGE QUALITY IN MULTIFOCAL CONTACT LENS WEARERS
6. P. Artal, D. Bernardet, J. de Brabander, N. Chateau, B. Fermigier, F. Jongsma, D. Joyeux, G. Lo-a-Foe, B. Lubberman, G. Marin, P. Prieto:
THE CLAAS PROJECT: OBJECTIVES AND FIRST RESULTS
7. A. Balgalve, J. Fridrihsons, I. Lacis:
EYE DOMINANCE GRADATION
8. A. N. Bashkatov, E. A. Genina, V. I. Kochubey, N. A. Lakodina, Y. P. Sinichkin, V. V. Tuchin:
EXPERIMENTAL STUDY OF GLUCOSE DIFFUSION WITHIN SCLERA.
9. J. M. Bueno, P. Artal:
POLARIZATION AND DOUBLE-PASS ESTIMATES OF THE RETINAL IMAGE QUALITY IN THE HUMAN EYE
10. P. Ewen King-Smith, N. Fogt, B. A. Fink, K. K. Nichols, R. M. Hill:
THE USE OF WAVELENGTH - DEPENDENT FRINGES FOR MEASURING THE THICKNESS OF LAYERS OF THE TEAR FILM AND CORNEA

11. O. Franzen, H. Richter, J. Pardo:
STUDIES OF SPATIAL CONTRAST SENSITIVITY AND VISUAL ACCOMMODATION USING VEP, PET AND PSYCHOPHYSICAL TECHNIQUES
12. J. Fridrihsons, V. Grabovskis, O. Cirpone:
REDUCTION OF VISUAL ACUITY DUE TO TRANSVERSE CHROMATIC ABBERATION IN OPHTHALMIC LENSES
13. B. Grzegorzewski:
LIGHT SCATTERING IN EQUATORIAL PLANE OF BOVINE LENS
14. A. Heisterkamp, H. Lubatschowski, G. Maatz, M. Rudolf, H. Welling, W. Ertmer:
APPLICATION OF ULTRASHORT LASER PULSES FOR INTRASTROMAL REFRACTIVE SURGERY
15. J. Ø. Hjortdal, N. Ehlers:
OPTICAL ANALYSES OF IRREGULAR CORNEAL SURFACES BEFORE AND AFTER TREATMENT WITH A TOPOGRAPHY MODULATED FLYING-SPOT EXCIMER LASER SYSTEM
16. J. Jaroński, D. Haszcz, Z. Zagórski:
INVESTIGATION OF THE CORNEAL STRUCTURE BY USE OF PHASE STEPPING IMAGING POLARIMETRY
17. J. Jaroński, H. Kasprzak:
THEORETICAL MODEL OF THE CORNEAL BIREFRINGENCE
18. J. R. Jiménez, R. G. Anera, J. A. Díaz, E. Hita, L. Jiménez del Barco:
INFLUENCE OF CORNEAL ASPHERICITY IN RETINAL IMAGE QUALITY
19. J. R. Jiménez, R. G. Anera, L. Carretero, L. Jiménez del Barco:
RETINAL IMAGE QUALITY IN MYOPIC SUBJECTS AFTER REFRACTIVE SURGERY
20. H. Kasprzak:
GRAVITATIONAL SAG OF THE CORNEA AND ITS REFRACTIVE CONSEQUENCES
21. H. E. Krinke, P. Mierdel, M. Kaemmerer, T. Seiler:
VARIABILITY OF MONOCHROMATIC ABERRATIONS IN HUMAN EYES WITH VISUAL ACUITY OF 20/20 OR BETTER
22. R. Kusel, U. Oechsner:
THE THEORETICAL CONCEPT OF DOUBLE-PASS POINT SPREAD FUNCTION MEASUREMENTS IN EYES
23. I. Lacis, M. Ozolinsh:
STUDIES OF DEPTH PERCEPT USING ELECTROOPTICALLY TUNEABLE LIGHT SCATTERING
24. G. Le Saux:
DO BACK DEGRESSIVE SURFACE IMPROVES THE PALS PERFORMANCES ?
25. T. Licznarski, H. Kasprzak:
RECONSTRUCTION OF FINE CORNEAL TOPOGRAPHY FROM INTERFEROMETRIC MEASUREMENTS
26. T. Licznarski, H. Kasprzak:
TEAR FILM STABILITY MEASUREMENTS ON THE CORNEA AND CONTACT LENS BY USE OF INTERFEROMETRY
27. D. Methling:
HETEROPHORIA – AN IMPORTANT CAUSE OF ASTHENOPIA AT VISUAL OCCUPATIONAL REQUIREMENTS
28. V. V. Molebny, I. G. Pallikaris, E. M. Smirnov, L. M. Ilchenko, S. Kolenov, L. P. Naoumidis, H. Ginis:
PHASE-DIFFERENCE MICROPROFIOMETRY IN PRK - CONNECTED APPLICATIONS
29. V. V. Molebny, I. G. Pallikaris, I. H. Chyzh, V. M. Sokurenko, J. Aslanides, H. Ginis, V. Katsanevaki:
DYNAMICS OF EYE REFRACTION: STUDIES WITH TRACY-1
30. V. V. Molebny, I. G. Pallikaris, T. Seiler:
REFRACTION VS CORNEAL TOPOGRAPHY FOR VISUAL ACUITY ENHANCEMENT WITH PRK
31. K. Naeser, S. Guo:
PRECISION OF AUTOKERATOMETRY EXPRESSED AS CONFIDENCE ELLIPSES IN EUCLIDIAN 2-SPACE
32. S. Naroo, W. N. Charman:
SURFACE ROUGHNESS AFTER PHOTOREFRACTIVE KERATECTOMY (PRK) FOR THE CORRECTION OF REFRACTIVE ERROR SIMULATION USING PMMA
33. A. V. Novosselova, L. A. Melnikov, N. V. Blinova:
INVESTIGATION OF INFLUENCE OF THE DIFFERENT SHAPE LIGHT SIGNAL ON THE NEURAL NETWORK DYNAMICS MODELING THE VISUAL PERCEPTION
34. A. Popiolek-Masajada, H. Kasprzak:
NUMERICAL MODEL OF THE HUMAN EYE DURING ACCOMMODATION WITH THE NEW DESCRIPTION OF THE CRYSTALLINE LENS PROFILE
35. J. A. Potterand, B.K. Pierscionek:
NEAR VISUAL ACUITY OF THE COMMON MARMOSET (CALLITHRIX JACCHUS)
36. J. Pujol, G. Yang, M. Arjona:
INFLUENCE OF ASTIGMATISM ON RETINAL IMAGE QUALITY
37. B. Rassow, R. Kusel:
PREDICTION OF OPTICAL PERFORMANCE OF IOL DERIVED FROM TRANSFER PROPERTIES
38. S. Schruender:
ONLINE TOPOMETRY DURING REFRACTIVE SURGERY USING FRINGE PROJECTION
39. G. Smith:
THE ROLE OF THE GRADIENT REFRACTIVE INDEX OF THE LENS
40. V. V. Tuchin:
SCLERAL TISSUE OPTICS
41. D. A. Zimnyakov, T. M. Zagorovskaya, V. V. Tuchin, A. S. Borodin, E. V. Guryanov:
IN-VITRO ELASTOGRAPHIC STUDY OF SCLERA TISSUES BY USING ELECTRONIC SPECKLE IMAGING
42. B. Dubik, K. Sarnowska - Habrat, M. Zajac:
COMPUTER BASED TEST FOR VISUAL ACUITY EVALUATION

During the Meeting, the Organising Committee is going to arrange a round table discussion. The topic proposed for the discussion will concern research co-operation, future trends, and possible continuation of European Meetings on physiological optics.

Publications

All presented papers will be published in the Digest of the Meeting. All registered participants will receive a full program and the Digest of the Meeting, upon arrival at the Meeting Reception Desk.

The organisers ask participants to prepare short versions of their papers, not exceeding two pages. The preferred format of the paper is Microsoft Word. Paper sheet size should be A4 (21x29.7 cm), top and bottom margins 3 cm high, and left and right margins 2.5 cm wide. Font should be normal, size 10 and Times New Roman style. Paragraph – justified, one line spacing, the first line 1cm indented. The papers can be one or two columns formatted, including figures and formulae. Figures should be part of the document. Print the PAPER TITLE in capitals and center it, leave one line and type the name(s) of the author(s) and center it, too. The name of the author who will present the paper should be underlined. Leave one line and type the affiliation and address and center it. One line must be left between the address and the abstract text, approximately 60 words long. All references should be grouped at the end.

All the Authors are encouraged to submit their papers before June 30, 1999 using e-mail: pho@rainbow.if.pwr.wroc.pl and the option of an attached file. Those who cannot send papers by this form are asked to send them (in camera-ready form) by ordinary mail at the address of Conference Secretary.

The full version of the paper can be sent for publication to the Journal of the European Optical Society.

Exhibition

It is intended to organise a small exposition of posters and products related to Conference topics in the foyer of the Conference Hall. Interested exhibitors are invited to contact the Meeting Secretariat for further information.

Conference fees

Payment	prior to June 1, 1999	after June 1, 1999
<i>Participants</i>		
Regular	200 USD	250 USD
Student	100 USD	120 USD
<i>Accompanying person</i>	100 USD	120 USD

Fees include the participation in the conference, Digest of the Meeting, coffee breaks, welcome reception, and a boat excursion on the Odra river with a barbecue.

Cancellation of the participation with 80% refunds of the conference fee will be possible. The cancellation should be sent to the Conference Secretary prior to August 15, 1999.

The payment can be made:

- by bank transfer to:

Instytut Fizyki No. 413 053
Bank: Bank Zachodni S.A. II O/Wrocław, Poland
Account No. 11201665-3418-131-3000

- On-site cash payment at the registration desk is possible only in polish zloty (using the rate of exchange on the day of payment, approx. 1 USD = 4 PLN).

Conference location

The conference will take place in the Training Centre of the National Work Inspection,

Ośrodek Szkolenia PIP
Kopernika str. 5
51 – 622 Wrocław

tel. (0048-71) 348-50-27
fax (0048-71) 348-16-94

Office services with a copy machine, computer with printer and access to the internet will be available during the Meeting.

Transportation

Arriving by plane

Wrocław can be reached everyday by direct flights from WARSAW, FRANKFURT (Main), VIENNA and COPENHAGEN. For details please refer to <http://www.airport.wroclaw.pl/index2.html>

If you arrive on September 23rd between 12.00 to 20.00 we provide a welcome service inside the arrival terminal hall. After arrival please contact our representative at information desk situated in International Departures Hall who will help you to arrange transportation to the Conference site. The distance between the airport and the Conference site is about 20 km.

Arriving by train

Following direct interconnections to Wrocław are available:

WARSAW (350 km), FRANKFURT (a/Main), PRAHA (250 km), BERLIN (250 km), MOSCOW, DRESDEN, KIEW, BUDAPEST.

A timetable can be viewed at WWW page <http://bahn.hafas.de/bin/db.s98/query.exe/es>

Arriving by car

Please find attached map of the town, which help you find the way to the Conference Center.

The internet guide to Wrocław can be found on the following sites

<http://www.wroclaw.plan.pl/wroclaw/>
<http://www.wcss.wroc.pl/wroclaw/wroclawe.html>
<http://www.wroclaw.com/>

Accommodation and meals

The Organising Committee offers accommodation in the nice hotel belonging to the Training Centre. The hotel was built in 1929 and it is an architectural monument of modernism. The hotel stylised in the shape of a ship offers double level rooms, full board, a cafe, as well as possibility to use a fitness room and a sauna.

Approximated prices per person per day – i.e. bed, breakfast and lunch are

single person room	40 USD
two person room:	30 USD
three person room	25 USD
suite	75 USD

Accommodation is commencing with dinner on the evening of Wednesday 22nd September, and ends with lunch on Saturday 25th September 1999. The price of the first night (22nd/23rd) includes the dinner on Wednesday 22nd.

Currency Exchange

Exchange offices are available at the airport, at railway stations, in hotels (not in the Conference site) and banks.

Social Program

- On Thursday 23rd before noon all accompanying persons are invited to a guided tour of about two hours around the old part of the city.
- On Thursday 23rd at 17.00, all participants and accompanying persons are welcome to the opening ceremony in the Aula Leopoldina located in the main building of the University of Wrocław. After the opening ceremony there will be a walk of about 500 meters around the Old Market Square . A welcome reception will take place after the walk in the Old Market Square area.
- A whole day excursion for accompanying persons is organised on Friday 24th. The excursion will take place around the Kłodzko valley and the Table Mountains about 80 km south of Wrocław.
- On Friday 24th evening, all guests are invited to a boat excursion on the Odra river. During the excursion a barbecue on the river bank is foreseen.

Organizing Committee:

Beata Garncarz

Elżbieta Jankowska-Kuchta

Jarosław Jaroński

Tomasz Licznerski

Agnieszka Popiołek-Masajada

Marek Zając