IUGG

XXIV GENERAL ASSEMBLY

Perugia, July 2-13, 2007

EARTH: OUR CHANGING PLANET

July 11, 2007
SCIENTIFIC PROGRAM

July 11, 2007

US010 Earth System Interactions
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Rectorate Main Hall
Conveners: Brasser Guy

JHW002 Climate-Permafrost-Hydrology Interactions: The Impact of Changing Climate on Cold Regions Hydrology (UCCS Symposium hosted by IAH5)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Physics Room C
Poster July 11, 2007 from 02:00 PM to 05:30 PM - Department of Physics Room C
Conveners: Marsh Philip, Frauenfeld Oliver W.

HS1002 A New Focus on Integrated Analysis of Groundwater/Surface-Water Systems: Process Understanding, Conceptualisation and Modelling. (Sponsors ICGW, ICSW and ICCLAS)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Mathematics Room A2
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Rocca Paolina CERP
Conveners: Abesser Corinna, Wagener Thorsten, Nuetzmann Gunnar

HS2004 Quantification and Reduction of Predictive Uncertainty for Sustainable Water Resources Management (Sponsors ICCLAS, IAHS/WMO Working Group on GEWEX, ICWRS, ICRS, IAMAS-ICCLAS and PUB)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Mathematics Room A2
Poster July 11, 2007 from 02:00 PM to 05:30 PM - Department of Mathematics Room A2
Conveners: Boegh Eva, Kunstmann Harald

HS0005 Water Quality and Sediment Behaviour of the Future: Predictions for the 21st Century (Sponsor ICWQ, ICC, ICGW, PUB and ICT)
Oral July 11, 2007 from 02:00 PM to 05:30 PM - Department of Physics Room B
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Department of Physics Room B
Conveners: Webb Bruce

HS3006 Changes in Water Resources Systems - Methodologies to Maintain Water Security and Ensure Integrated Management (Sponsor ICWRS)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Mathematics Room 11
July 11, 2007 from 02:00 PM to 05:30 PM - Department of Mathematics Room 11
Conveners: van de Giesen Nick, Fukusima Yoshiohiro

HS3007 Remote Sensing for Environmental Monitoring and Change Detection (Sponsor ICRS)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Mathematics Room 12
July 11, 2007 from 02:00 PM to 05:30 PM - Department of Mathematics Room 12
Conveners: Owe Manfred

HW1002 Patterns, thresholds and non-linearities: Towards a new theory of catchment hydrology (Sponsor PUB)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Mathematics Room A3
Poster July 11, 2007 from 02:00 PM to 05:30 PM - Department of Mathematics Room A3
Conveners: Troch Peter

JHW2004 Towards Improved Evaluation of Hydrological Models: The Need to Understand and Characterize Uncertainties in the Modelling Process (Sponsor ICCLAS, PUB)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Physics Room B
Conveners: Frenn Jim, Zehe Erwin, Wagener Thorsten

JMS002 Earth System Interactions
Oral July 11, 2007 from 02:00 PM to 05:30 PM - Department of Physics Room A
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Rocca Paolina CERP
Conveners: Brasser Guy

JMS005 Aerosols, Biomass Burning and Precipitation
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Chemistry Room G
Poster July 11, 2007 from 02:00 PM to 05:30 PM - Department of Chemistry Room G
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Rocca Paolina CERP
Conveners: Lohmann Ulrike, Levin Zev

JMS011 Monsoon Systems
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Economics Main Hall
July 11, 2007 from 02:00 PM to 05:30 PM - Department of Economics Main Hall
Conveners: Wu Guoxiong

JMS025 3D Radiative Transfer in Complex Geophysical Media Including Clouds, Vegetation, Ice and Snow
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Chemistry Room F
July 11, 2007 from 02:00 PM to 05:30 PM - Department of Chemistry Room F
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Rocca Paolina CERP
Conveners: Cahalan Robert

JMS026 Ice Cores and Climate (UCCS Symposium hosted by IAMAS)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Pharmacy Room A
Conveners: Dahl-Jensen Dorthe

JMS030 Extratropical Ice (UCCS Symposium hosted by IAMAS)
Oral July 11, 2007 from 02:00 PM to 05:30 PM - Department of Pharmacy Room A
Conveners: Lange, Prof. Dr. Manfred, Greve Ralf

MS004 Mineral Dust Cycle and its Impact on Clouds and Radiation (ICCP)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Rektorate Room VIII
Conveners: Zender Charlie, Kallos George, Di Sarra Nicide

MS010 Dynamics of Convectively-Coupled Equatorial Waves and the Madden-Julian Oscillation (ICDM)
Oral July 11, 2007 from 04:00 PM to 05:30 PM - Department of Economics Room 2
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Rocca Paolina CERP
Conveners: Kiladis George

MS015 Extreme Weather and Climate Events: Past Occurrences and Future Likelihoods (ICCL)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Economics Room 1
Conveners: Alexander Lisa, Zhang Xuebin

MS016 Downscaling to Local and Regional Scales (ICCL)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Economics Room 2
July 11, 2007 from 02:00 PM to 04:00 PM - Department of Economics Room 2
Conveners: Giorgi Filippo

MS018 The Role of the Stratosphere in the Climate System (ICMA, IRC, ICCL)
Oral July 11, 2007 from 02:00 PM to 05:30 PM - Department of Pharmacy Room B
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Rocca Paolina CERP
Conveners: Geller Marvin

JS005 Tsunami: generation and hazard
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Law School Room 11
Poster July 11, 2007 from 02:00 PM to 05:30 PM - Law School Room 11
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
Conveners: Satake Kenji, Pelinovsky Efim, Dunbar Paula, Papadopoulos Gerassimos, Inamura Fumihiko

JS003 Early-Warning Systems
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Law School Room 3
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
Conveners: Zschau Jochen

JS004 Non-instrumental seismometry - Quantification of past and future earthquakes: balancing the geological, historical and contemporary strain records
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Law School Room 11
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
Conveners: Valensise Gianluca

JS005 Non-instrumental seismometry - Global and regional parameters of paleoseismology; implications for fault scaling and earthquake hazard
Oral July 11, 2007 from 02:00 PM to 05:30 PM - Law School Room 11
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
Conveners: De Martini Paolo Marco, Masana Eullia, Hecker Suzanne, Berryman Kelvin, Schwartz David, Valensise Gianluca, Pantosti Daniela

JS006 Non-instrumental seismometry - New Approaches to Paleoseismology and Earthquake Recurrence in the 21st Century
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Law School Room 12
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
Conveners: Masana Eullia, Schwartz David, Valensise Gianluca, Gutierrez Francisco, Pantosti Daniela

SS001 Seismic Observations And Interpretation
Oral July 11, 2007 from 02:00 PM to 05:30 PM - Law School Room 3
Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
Conveners: Storchak Dmitry, Sato Haruo, Bard Pierre-Yves, Fh James, Musson Roger, Hanks Winfried

SS003 Earthquake Hazard, Risk, and Strong Ground Motion - Site effects (and their dependence on source and propagation-path)
Oral July 11, 2007 from 09:00 AM to 12:30 AM - Law School Room 12
Poster July 11, 2007 from 02:00 PM to 05:30 PM - Law School Room 12
Conveners: Furumura Takashi, Bard Pierre-Yves, Fh James, Musson Roger, Hanks Winfried
**MEETING PROGRAM**

### July 11, 2007

**IUGG Council**
- July 11, 2007 from 04:00 PM to 07:00 PM - Rectorate Room VIII

**IAHS Prediction in Ungauged Basins**
- July 11, 2007 from 06:00 PM to 07:30 PM - Department of Physics Room B

**IAPSO SCOR**
- July 11, 2007 from 09:00 AM to 05:00 PM - Palazzo dei Priori Sala Rossa

**IAVCEI Commission on Mitigation of Volcanic Disasters**
- July 11, 2007 from 07:30 PM to 08:30 PM - Academy of Fine Arts Room 16

**IAVCEI Commission on Large-Volume Basaltic Provinces**
- July 11, 2007 from 07:30 PM to 08:30 PM - Academy of Fine Arts Room 14

**IAVCEI Commission on Volcanogenic Sedimentation**
- July 11, 2007 from 07:30 PM to 08:30 PM - Academy of Fine Arts Room 6

**IAVCEI The International Volcanic Health Hazard Network**
- July 11, 2007 from 07:30 PM to 08:30 PM - Academy of Fine Arts Library

**IAVCEI Executive Committee**
- July 11, 2007 from 07:00 PM to 10:00 PM - Facilities other then university venues Restaurant (reserved room and buffet)

**IAVCEI Commission on Volcanic Sismology**
- July 11, 2007 from 07:30 PM to 08:30 PM - Academy of Fine Arts Room 8

### July 12, 2007

**IUGG Mathematical Geophysics Union Commission**
- July 12, 2007 from 06:00 PM to 08:00 PM - Academy of Fine Arts Library

**IAHS Plenary**
- July 12, 2007 from 06:00 PM to 07:30 PM - Department of Mathematics Room I1

**IASPEI Executive Committee**
- July 12, 2007 from 01:00 PM to 02:30 PM - Rectorate Dessau Hall

**IASPEI Bureau Meeting**
- July 12, 2007 from 12:30 AM to 01:00 PM - Rectorate Room V

**IAVCEI General Assembly**
- July 12, 2007 from 04:30 PM to 05:30 PM - Rectorate Main Hall

**IAVCEI Eruption Forecasting through the Bayesian Event Tree: Moving from theory to practice with the software package BET_EF (Workshop)**
- July 12, 2007 from 05:30 PM to 09:00 PM - Academy of Fine Arts Room 18

**UCCS Ice and Snow Classification and Glossary**
- July 12, 2007 from 06:00 PM to 07:30 PM - Rectorate Dessau Hall

**UCCS/IACS Plenary**
- July 12, 2007 from 06:00 PM to 07:30 PM - Rectorate Room VIII

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**SS004 Earthquake Hazard, Risk, and Strong Ground Motion - Estimation of strong ground motion**
- Oral July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
  - Conveners: Douglas John

**SS005 Earthquake Sources - Modelling and Prediction**
- Oral July 11, 2007 from 09:00 AM to 12:30 AM - Law School Room 7
  - July 11, 2007 from 02:00 PM to 05:30 PM - Law School Room 7
  - Conveners: Zavyalov Alexey, Matsuura Mitsuhiro

**SW004 Modernizing ISC procedures: model evaluation and magnitudes**
- Oral July 11, 2007 from 02:00 PM to 05:30 PM - Law School Room 8
  - Law School Room 8
  - Conveners: Schweitzer Johannes, Storchak Dmitry, Dewey James

**SW005 Reference Events for Improved Locations**
- Oral July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall

**UJS004 Volcano seismology**
- Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Chemistry Room E
  - July 11, 2007 from 02:00 PM to 05:30 PM - Department of Chemistry Room E
  - Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
  - Conveners: Ripepe Maurizio, Neuberger Jurgen

**VS004 Intraplate monogenetic basaltic and kimberlite volcanic provinces and processes**
- Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Chemistry Room B
  - July 11, 2007 from 02:00 PM to 05:30 PM - Department of Chemistry Room B
  - Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
  - Conveners: Giordano Guido, Cas Ray

**VS007 Calderas II: Calderas and caldera forming eruptions**
- Oral July 11, 2007 from 09:00 AM to 12:30 AM - Academy of Fine Arts Library
  - July 11, 2007 from 02:00 PM to 05:30 PM - Academy of Fine Arts Library
  - Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
  - Conveners: Scandone Roberto, Ventura Guido, De Astis Gianfilippo

**VS017 Pedagogical and didactical methods in earth science education and geopark concepts in demonstrating volcanic processes**
- Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Chemistry Room C
  - Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
  - Conveners: Martin Ulrike

**VS021 Eruptions of Stromboli Volcano, Italy, March 2007**
- Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
  - Conveners: Scandone Roberto

**VS022 Mt Ruapehu (NZ) breakout lahar, 18 March 2007**
- Oral July 11, 2007 from 09:00 AM to 12:30 AM - Department of Chemistry Room A
  - Poster July 11, 2007 from 06:00 PM to 08:00 PM - Baldeschi Palace Main Hall
  - Conveners: Nemeth Karoly
From a medieval nucleus where the famous law professor Baldo degli Ubaldi lived, there is in the XVI century a harmonious and homogeneous structure. In the XV century this is the location of a press factory, a member of which was also Bracceschi Malatesta Baglioni, captain of the militia of the pontificate. Throughout the years the heirs of the degli Ubaldi continued to enlarge and incorporate more factories. Afterwards, thanks to the skilled restoration it became of the most prestigious residences of the city and location of a very important art collection, where works of Raphael and Velasquez were held. In 2002 the palace was purchased by the Fondazione Cassa di Risparmio to make it “a place for art”, where cultural events and exhibits could be hosted and to display its own works of art. There is the famous Perugino Madonna col bambino e l’ due cherubini which was probably meant to be part of three. This can be seen by the presence of bores on the side but also by the direction the Madonna and the Child are looking (in opposite directions). On the noble floor and in the rooms, the decoration is very special. The colors and the frescoes are extraordinarily beautiful. The first room is dedicated to Diana and Endimione. She was the protector of animals of nature and of chastity. The second, the Sala delle Muse is homage to art in all of its expressions. The Sala della Verità has a central allegorical symbol of truth; a woman holding the sun shining on darkness. The sala della Sapienza which the olive branch could be referring to. The sala dei Quattro Elementi with a winged woman in the center throwing flowers while a putto drags her while holding a torch and another is pouring water. Rita Rossetti

Art&Museums

PALAZZO BALDESCHI AL CORSO

A little bit of...

...ORIGINS OF ITALIAN LANGUAGE

The Italian language comes from Vulgar Latin. Latin had, in the past, two forms: one literary and written used by learned men and by wealth people, and vulgar used by population and by less learned men. During its maximum power, Rome imposed its laws and its language to conquered population. When the Roman empire started to decay, during the III century after Christ, various types of Vulgar Latin became real languages, each one with their own characteristics. From that point not only Latin or Romance (that is of Roman origin) languages were spread: Italian, French, Spanish, Provencal, Catalan, Portuguese, Rumen, Ladin and Sardinian. In Italy, although the continuous barbaric invasions, Latin language survived for a long time. Afterwards, it changed into various dialects (common use languages) whereas Latin was known only by learned men. The Dialect that, at the end, became Italian language was the Florentin. Below, you can see the first document found in Italian language: “Indovinello veronese” discovered by Schiapparelli in the Verona Library. The whole text was written by hand next to a codex of Spanish origin, dated VIII-IX century After Christ

Original
Se pareba boves, alba pratilia araba et albo versario teneba, et negro semien seminaba

Modern
I separated oxen, I plough white meadows, I held a white plough And sowed the black seed

And sowed the black seed -the ink. The final solution is the copyist, during his work.

How can we start to communicate in Italian?

First Italian lesson:

Greeting – Introducing oneself
Ciao (it’s used all the time!) Buongiorno, buonasera, buonanotte...if it’s morning, evening or night. Arrivederci… to say goodbye A pr eso, a dopo, ci vediamo...to say see you later. Come sta? Come va? To ask for someone’s health Grazie e prego should be used always! Come ti chiami? Mi chiamo... To ask for someone’s name Piacere di conoscerti! Nice to meet you! Da dove vieni? Vengo da ….e sono... Where are you from?

...Italy, land of thousand dialects

A dialect (from Greek, dialectos, “spoken language”) indicates, in its first meaning, a linguistic variety used by the inhabitants of a particular geographic area. The second meaning comes from the ancient Greek (“διάλεκτος”) and it concerns a kind of language with an exact territorial characterization. It’s not considered a true language because it is not used officially. In Italy both meanings are spread, but this fact causes a lot of confusion.

From a political, legislative, jurisprudence point of view the term “dialect” is used to define every language spoken in a geographic area without being official. In this category many minor languages are included and each with their own literary tradition and story, such as milanese, napoletano, veneto and siciliano.

Other languages are recognized as official languages together with Italian within an administrative limited area. These are: Friulano in Friuli, Sardo in Sardinia, Catalan in Alghero, German in Alto Adige. In these places, these languages can be taught (funded from the State) and to be used during public speeches. They can also reach the status of co-officiality with Italian. These languages are almost never called dialects not even by the inhabitants of other Italian regions. Therefore, a dialect is a complete verbal communication system with typical vocabulary and grammar.
Assisi is best known as the city of Saint Francis and Santa Chiara. Assisi had its origins from a little village populated by Umbrian people (IX - VIII century before Christ). The City was conquered by Romans who called it Asisium. Thanks to them it became an important economic city of Roman Empire until its decay. After a period of continuous wars, Assisi was conquered by Federico Barbarossa. Francis was born in Assisi Between 1181 and 1182– he was the son of Pietro di Bernardone and Madonna Pica – the future holy man that with his work will mark the history of humanity. During XVI century Assisi was given to the Church with Pope Paul III. In 1860 it became part of the emerging Italian State.

**MONUMENTS**
- San Francesco Basilica: inferior and superior;
- Santa Chiara Basilica;
- S. Maria Maggiore Church;
- S. Rufino Cathedral;
- Piazza del Comune with Palazzo del Podestà and Torre del Popolo;
- Palazzo della Biblioteca Comunale;
- Museo Civic Museum and Foro romano;
- Pinacoteca Comunale of Assisi;
- Tempio di Minerva; l’Anfiteatro e la Rocca maggiore; l’Eremo delle carceri sul monte Subasio; la Chiesa di San Damiano; la Basilica di Santa Maria degli Angeli con la Porziuncola; la Chiesa di San Damiano; la Basilica di Santa Maria degli Angeli con la Porziuncola; la Chiesa di San Damiano; la Basilica di Santa Maria degli Angeli con la Porziuncola; la Chiesa di San Damiano; la Basilica di Santa Maria degli Angeli con la Porziuncola; la Chiesa di San Damiano; la Basilica di Santa Maria degli Angeli con la Porziuncola; la Chiesa di Rivorto, il Museo Capitolare della Cattedrale di S. Rufino; la Galleria d’arte Contemporanea di Assisi; il Museo degli Indios dell’Amazzonia; il Museo Etnografico Universale; il Museo-Tesoro della Basilica di S. Francesco e Collezione “Perkins”.

**EVENTS**
**Calendimaggio**
It is a spectacular evocation of medieval and Renaissance costumes and life, and it celebrates the coming of Spring. The two ancient medieval wards, the “Parte di Sopra” and the “Parte di Sotto”, engage in a spectacular challenge which takes the form of theatre shows, songs and choruses, dances, processions, archery, crossbow and flag-waving displays. The districts compete in a singing contest among the spectacular floral decorations, torches and candles.

**LA PORZIUNCOLA**
Although we can find references to the area of the Porziuncola in the documents of the city of Assisi dating back to more or less the year one thousand, it is only with the life of Saint Francesco that the place acquires its precise identity, being a religious centre for the Order of the “Frati Minori” (Minor Friars) as well as an important destination for the pilgrims.

After having abandoned the wealth of his family Saint Francesco found asylum in this old chapel, nowadays located inside the large Basilica of Santa Maria degli Angeli, he restored it and obtained it as a gift from the Benedictines. In this place, on March 28th 1211 After Christ, Chiara di Favarone di Offreduccio began her monastic life, founding then the Order of the Clarisse and Saint Francesco obtained from Jesus during a dream the indulgence of the Forgiveness. Already before the building of the Basilica of Santa Maria degli Angeli, the visitors coming to the Porziuncola were so numerous, even estimated to 100000 in 1582 after Christ, that it was becoming necessary to have new structures to welcome them. For example, in 1450 after Christ Cosimo dei Medici absolutely wanted the building of the “fountain of the 26 cinnamons” that, nowadays, is located along the side of the basilica.

The structure of the Porziuncola is a copy of the typical organization of the Benedictine structures in the Umbrian roman style; the church, made of squared rocks, has remained untouched at the exception of the small belfry - tabernacle of gothic inspiration, of a painted door dating back to the end of 400 and of the façade almost completely recovered of frescos by Federico Overbek in 1830 after Christ.

The interventions of restoration in 1998 have allowed to avoid an ulterior degradation of the chapel and to get back the painted materials of the great politico behind the altar painted in 1393 after Christ by Iliario da Viterbo, as well as some rests of the frescoes of the Crucifixion in the apsidal part realized around 1485 after Christ by the Perugino.

**FIELD TRIPS**
**Assisi**
**Region** Umbria
**Province** Perugia
**Surface** 186 km²
**Population** 26,186
**Holy Protector** San Rufino
**Holiday** 12th of August

**Assisi**
11th of July (Half day):
Departure from Piazza Partigiani at 9 a.m.
Return to Piazza Partigiani at 1 p.m.
For booking please contact 075 - 5014428

**TODAY WE’RE GOING TO**
IUGG XXIV General Assembly
Perugia July 2,13, 2007

Organized by

High Patronage of the
President of the Republic of Italy

Patronage of

Presidenza del Consiglio dei Ministri
Ministero degli Affari Esteri
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