

3rd EMAW  
PAVIA 2018

# 3rd EUROPEAN MANTLE WORKSHOP



Pavia, 26-28th June



**June 25th, 2018 – Aula Forlanini**

**18-20 Registration**

**June 26th, 2018 – Aula del Disegno**

**From 08:00 Registration in Aula Forlanini**

08:30 Introduction

09:00 Keynote lecture: Tommasi A., Langone A., Padrón-Navarta J.A., Zanetti A., Vauchez A.  
FEEDBACKS BETWEEN DEFORMATION AND MELTS/FLUIDS IN THE UPPER MANTLE

09:30 Kaczmarek M.A., Vonlanthen P., Reddy S.  
LOCALIZATION OF DEFORMATION: THE ROLE OF METASOMATISM AND MINERAL MODE IN AN OCEAN-CONTINENT TRANSITION

09:50 Liptai N., Patkó L., O'Reilly S.Y., Griffin W.L., Szabó C.  
RECONSTRUCTING GEOCHEMICAL AND DEFORMATION EVENTS IN MANTLE XENOLITHS FROM THE NORTHERN PANNONIAN BASIN

10:10 Tabor B.E., Downes H.  
FRACTAL CHARACTERISTICS OF TEXTURES OF MANTLE XENOLITHS

**10:30 Coffee break in Cortile Sforzesco**

11:00 O'Reilly S.Y., Griffin W.L., Xiong Q., Afonso J., Satsukawa T.  
GEOCHEMICAL, MICROSTRUCTURAL AND TECTONIC EVIDENCE FOR GEODYNAMIC PROCESSES DURING HEROIC COLLISION EVENTS

11:20 Ntaflos T., Abart R., Papadopoulou M., Bjerg E.A., Hauzenberger C.  
SMALL-SCALE COMPOSITIONAL HETEROGENEITIES WITHIN THE LITHOSPHERIC MANTLE UNDERNEATH COMALLO N. PATAGONIA, ARGENTINA

11:40 Tollan P., Hermann J., Dale C., Davidson J., Arculus R.  
PETROGENESIS OF THE MANTLE BENEATH THE WEST BISMARCK ISLAND ARC

12:00 Lo Pò D., Braga R., Tropper P., Konzett J., Mair V., Bargossi G.M., Consuma G.  
MULTIPHASE SOLID INCLUSIONS IN GARNET-PERIDOTITE FROM THE ULTEN ZONE (EASTERN ALPS, ITALY)

12:20 Morishita T., Tani K., Tamura A., Gamal El Dien H., Kelemen P.B.  
PETROLOGY OF THE ULTRAMAFIC ROCKS IN THE TALKEETNA ARC ROOT, ALASKA

**12:40 Lunch (not included in the registration fee)**

**Poster session 1 in Cortile Sforzesco**

14:00 Keynote lecture: Kovács I.J., Wesztergom V., Patkó L., Aradi L., Liptai N., Falus G., Szabó C., Lenkey L.  
WATER AND ITS DISTRIBUTION IN THE UPPER MANTLE BENEATH THE PANNONIAN-BASIN: GEODYNAMICAL AND GEOPHYSICAL IMPLICATIONS

3rd EMAW  
PAVIA 2018

# 3rd EUROPEAN MANTLE WORKSHOP



Pavia, 26-28th June



14:30 Hao Y., Li P., Coltorti M., Xia Q.

VARIATIONS IN THE H<sub>2</sub>O CONTENT AND H<sub>2</sub>O/Ce RATIO OF MANTLE PYROXENITES: IMPLICATIONS FOR ENRICHED COMPONENTS IN THE MANTLE

14:50 Patkó L., Liptai N., Kovács I.J., Aradi L., Xia Q., Ingrin J., Mihály J., O'Reilly S.Y., Griffin W.L., Wesztergom V., Szabó C.

LOW WATER CONTENT IN UPPER MANTLE XENOLITHS FROM THE NÓGRÁD-GÖMÖR VOLCANIC FIELD (NORTHERN PANNONIAN BASIN): GEODYNAMIC IMPLICATIONS AND THE ROLE OF POST-ERUPTIVE WATER LOSS

15:10 Rizzo A., Pelorosso, B., Coltorti, M., Ntaflos, T., Bonadiman, C., Matusiak-Malek, M., Italiano, F., Bergonzoni, G.

NOBLE GASES AND CO<sub>2</sub> IN FLUID INCLUSIONS FROM WILCZA GÓRA MANTLE XENOLITHS (EGER RIFT, SW POLAND)

**15:30 Coffee break in Cortile Sforzesco**

16:00 Puziewicz J., Matusiak-Matek M., Ntaflos T., Grégoire M., Kukuła A., Cwiek M., Hidas K., Garrido C.J.  
ARCHITECTURE OF MANTLE ROOTS OF EUROPEAN VARISCAN OROGEN

16:20 Matusiak-Matek M., Puziewicz J., Ntaflos T., Grégoire M., Kukuła A., Cwiek M.  
METASOMATIC PROCESSES IN LITHOSPHERIC MANTLE BENEATH SW POLAND

16:40 Woodland A., Schreiter C., Uenver-Thiele L.  
PERIDOTITE XENOLITHS FROM MONTMATON, FRENCH MASSIF CENTRAL: FIRST OCCURRENCE OF Fe-Ti METASOMATISM

17:00 Faccini B., Coltorti M., Bonadiman C.  
CONTEMPORANEOUS EMISSION OF CALC-ALKALINE AND ALKALINE MAGMAS IN SUBDUCTIVE GEODYNAMIC SETTINGS: A MANTLE XENOLITH PERSPECTIVE

**17:20-19:00 Poster session 1 in Cortile Sforzesco**

3rd EMAW  
PAVIA 2018

# 3rd EUROPEAN MANTLE WORKSHOP

Pavia, 26-28th June



## June 27th, 2018 – Aula del Disegno

08:30 Kenote lecture: Conticelli S., Avanzinelli R., Casalini M., Ammannati E.

RECYCLED CARBONATE SEDIMENTS IN THE METASOMATISM OF CENTRAL MEDITERRANEAN SUB-CONTINENTAL MANTLE AS REVEALED BY MINERALOGICAL, CHEMICAL AND ISOTOPIC CHARACTERISTICS OF POTASSIC MAGMATISM

09:00 Günther J., Prelević D., Mertz D., Rocholl A.

ITALIAN KAMAFUGITES REVISITED: FINGERPRINTING DIFFERENT METASOMATIZED MANTLE COMPONENTS USING OLIVINE GEOCHEMISTRY

09:20 Giuliani A., Soltys A., Lim E., Farr H., Phillips D., Foley S.F., Griffin W.L.

OLIVINE, KIMBERLITES AND THE MODIFICATION OF CARBONATED MELTS IN THE DEEP EARTH

09:40 Griffin W.L., Huang J., Gain S., Toledo V., O'Reilly S.Y.

SOURCES AND BEHAVIOUR OF CARBON-RICH FLUIDS IN THE LITHOSPHERIC MANTLE: INSIGHTS FROM OFF-CRATON

## 10:00 Coffee break in Cortile Sforzesco

10:30 Garrido C.J., Hidas K., López-Sánchez Vizcaíno V., Dilissen N., Padrón-Navarta J.A.

DYNAMICS OF HIGH-PRESSURE DESERPENTINIZATION IN SUBDUCTING SLABS: INSIGHTS FROM THE ALMIREZ ULTRAMAFIC MASSIF

10:50 Braga R., Förster B., Aulbach S., Consuma G., Lo Pò D.

THE CARBON CONTENT OF A MANTLE WEDGE FROM A COLLISIONAL ZONE - THE ULTEN ZONE CASE

11:10 Avanzinelli R., Bianchini G., Tiepolo M., Jasim A., Natali C., , Braschi E, Beccaluva L., Conticelli S.

SUBDUCTION-RELATED HYBRIDIZATION OF THE LITHOSPHERIC MANTLE IN MANTLE XENOLITHS FROM TALLANTE (BETIC CORDILLERA, SPAIN)

11:30 Boschi C.

NATURAL MINERAL CARBONATION OF SERPENTINITES AND THE INCORPORATION OF ATMOSPHERIC VS. DEEP CO<sub>2</sub>

11:50 Clarke E., De Hoog J.C.M., Harvey J., Debret B., Garrido C.J.

BORON ISOTOPES AND THE ROLE OF SERPENTINITES IN SUBDUCTION ZONES

12:10 Matjuschkin V., Woodland A., Yaxley G.M.

METHANE-RICH FLUIDS IN THE UPPER MANTLE ENVIRONMENT AND THEIR ROLE IN REDOX MELTING PROCESSES

## 12:30 Lunch (not included in the registration fee)

### Poster session 1 in Cortile Sforzesco

### 13:45-14:00 Poster session 2 in Cortile Sforzesco

14:00 Keynote lecture: Stracke A., Genske F., Ionov D.

Hf-Nd isotope systematics in mantle xenoliths from Siberia and Mongolia

14:30 Sanfilippo A., Salters V., Tribuzio R., Zanetti A.

MELTING AN ANCIENT, REFRACTORY MANTLE AT MID OCEAN RIDGES

3rd EMAW  
PAVIA 2018

# 3rd EUROPEAN MANTLE WORKSHOP



Pavia, 26-28th June



14:50 Tilhac R., Griffin W.L., O'Reilly S.Y., Schaefer B.F., Ceuleneer G., Grégoire M.

HAFNIUM-NEODYMIUM ISOTOPIC DECOUPLING DURING THE FORMATION OF ARC PYROXENITES (CABO ORTEGAL COMPLEX, SPAIN)

15:10 Rampone E., Borghini G., Class C., Goldstein S.L., Cai Y., Cipriani A., Zanetti A., Hofmann A:W.

EXTREME HF-DEPLETED ISOTOPIC COMPONENT IN SPINEL PYROXENITES FROM THE LIGURIAN MANTLE (ITALY)

**15:30 Coffee break in Cortile Sforzesco**

16:00 Burton S., Luguet A., Lorand J., Geoff N, Burton K.

ORIGIN OF SUB-CHONDRITIC Os/Ir RATIOS IN OFF-CRATON PERIDOTITE XENOLITHS: A CASE STUDY FROM THE FRENCH MASSIF CENTRAL PERIDOTITE XENOLITHS

16:20 Secchiari A., Becker H., Gleissner P., Li C., Montanini A., Bosch D.

HIGHLY SIDEROPHILE AND CHALCOPHILE ELEMENT BEHAVIOUR IN ABYSSAL-TYPE AND SUPRA-SUBDUCTION ZONE MANTLE: CONSTRAINTS FROM THE NEW CALEDONIA OPHIOLITE

16:40 Montanini A., Tribuzio R., Van Acken D., Luguet A.

AN UNDEFORMED PYROXENITE-PERIDOTITE SEQUENCE FROM THE EXTERNAL LIGURIAN OPHIOLITES RECORDS MULTIPLE EVENTS OF MELT-ROCK INTERACTIONS

17:00 Giovanardi T., Cipriani A., Lugli F., Morishita T., Dallai L., Hémond C., Langone A., Zanetti A., Mazzucchelli M.

MELT-ROCK INTERACTIONS AT MANTLE CONDITIONS: INTRUSION OF GABBROIC DYKES IN THE SUB-CONTINENTAL FINERO MANTLE MASSIF

**17:20-19:00 Poster session 2 in Cortile Sforzesco**

3rd EMAW  
PAVIA 2018

# 3rd EUROPEAN MANTLE WORKSHOP



Pavia, 26-28th June



**June 28th, 2018 – Aula del Disegno**

08:30 Keynote lecture: Chalot-Prat F., Doglioni C., Falloon T.

UPPER MANTLE DIFFERENTIATION CONTROLLED BY PLATE TECTONICS IN THE FRAMEWORK OF THE WESTWARD DRIFT OF LITHOSPHERE: AN ALTERNATIVE OCEANIC PLATE SPREADING MODEL

09:00 Ozawa K., Garrido C.J., Hidas K., Bodinier J.

MODES OF ASTHENOSPHERE-LITHOSPHERE INTERACTION REVEALED FROM EVOLUTION OF THE INTERNAL THERMAL STRUCTURE OF OROGENIC PERIDOTITE COMPLEXES

09:20 Aoki T., Ozawa K., Bodinier J., Boudier F.

VARIABILITY OF THERMAL STATE IN THE LANZO MASSIF, WESTERN ALPS, ITALY: ITS IMPLICATIONS ON LITHOSPHERE-ASTHENOSPHERE BOUNDARY PROCESSES

09:40 Sossi P., O'Neill H.

ORIGIN OF THE BALMUCCIA OROGENIC LHERZOLITE MASSIF AND ITS IMPLICATIONS FOR THE CAUSES OF CHEMICAL VARIABILITY IN EARTH'S UPPER MANTLE

**10:00 Coffee break in Cortile Sforzesco**

10:30 Bonadiman C., Coltorti M.

MANTLE SUBSOLIDUS AND MELTING BEHAVIOR AS MODELLED IN THE SYSTEM CMASFe

10:50 Katzir Y., Novo H., Abelson M., Mevel C., Dvir O.

DUNITES AS CHANNELS OF BONINTE MELT AT THE BASE OF THE OCEANIC LITHOSPHERE: EVIDENCE FROM THE TROODOS OPHIOLITE, CYPRUS

11:10 Fumagalli P., Borghini G., Francomme J.E.

MELT-DUNITE INTERACTIONS AT 0.5 AND 0.7 GPA: AN EXPERIMENTAL STUDY ON THE ORIGIN OF OLIVINE-RICH TROCTOLITES

11:30 Faul U., Garapić G.

THE GEOMETRY OF INTERSTITIAL PHASES IN OLIVINE-RICH TROCTOLITES: NATURAL ANALOGUES TO EXPERIMENTS

11:50 Basch V., Rampone E., Crispini L., Ferrando C., Godard M., Ildefonse B.

GEOCHEMICAL EVOLUTION DURING POLY-PHASE FORMATION OF THE ERRO- TOBBIO TROCTOLITIC BODY (LIGURIAN ALPS, ITALY)

12:10 O'Neill H.

PHASE RELATIONS, MELTING TEMPERATURES AND PETROGENESIS OF SOME CR-DIOPSIDE WEBSTERITE SEGREGATIONS IN MANTLE PERIDOTITE

**12:30 Lunch (not included in the registration fee)**

**Poster session 2 in Cortile Sforzesco**

14:00 Ionov D., Doucet L., Xu Y., Golovin A., Oleinikov O.

REWORKING OF ARCHEAN MANTLE IN THE NE SIBERIAN CRATON BY CARBONATITE AND SILICATE MELT METASOMATISM

3rd EMAW  
PAVIA 2018

# 3rd EUROPEAN MANTLE WORKSHOP



Pavia, 26-28th June



14:20 Pokhilenko N., Agashev A., Pokhilenko L..

EVOLUTION OF THE SIBERIAN PLATFORM LITHOSPHERIC MANTLE PERIDOTITE COMPOSITION AS A RESULT OF MULTIPLE CYCLES OF SILICATE METASOMATISM

14:40 Goncharov A.

IN-SITU IRON OXIDATION STATE IN THE UPPER MANTLE MINERALS USING ELECTRON MICROPROBE

15:00 Castillo-Oliver M., Giuliani A., Griffin W.L., O'Reilly S.Y., Drysdale R., Thomassot E., Ling X., Li, X.  
KIMBERLITE CARBONATE PETROGENESIS FROM COMBINED COMPOSITIONAL AND C-O-Sr ISOTOPE ANALYSIS: THE BENFONTEIN CASE

**15:20 Coffee break in Cortile Sforzesco**

15:50 Tiepolo M., Fiorentini M., Sessa G., Moroni M., Langone A.

EVIDENCE OF Nb/Ta HETEROGENEITY IN THE EARTH'S MANTLE

16:10 Pavese A., Merli M., Bonadiman C.

ALUMINUM DISTRIBUTION IN THE LOWER MANTLE: ab-initio GEOCHEMICAL MODELLING

16:30 Belmonte D.

MELTING PHASE RELATIONS IN THE EARTH'S DEEP MANTLE: MERGING FIRST PRINCIPLES MINERAL PHYSICS WITH COMPUTATIONAL THERMODYNAMICS

16:50 Mantovani F., Baldoncini M., Fiorentini G., Lisi E., Strati V.

GEONEUTRINOS FOR UNVEILING THE EARTH'S INTERIOR

**17:10 End of oral sessions in Aula del Disegno and coffee break in Cortile Sforzesco**

**17:40-19:00 Poster session 2 in Cortile Sforzesco**