

Public Customized Course on 'Geometallurgy and Advanced Characterization of Iron Ores'

(Venue : Mirinae room)

| Date/Time | Program Description | Remarks |
|-------------------|--|---------------------|
| 9.15 (Mon) | Registration and orientation | IS-Geo |
| 09:50-10:00 | | |
| 9.15 (Mon) | Iron ore geology, mineralogy and characterization. | |
| 10:00-10:15 | Welcome and introduction (CSIRO and Carbon Steel Futures group) | Dr. Eugene Donskoi |
| 10:15-11:10 | Introduction to Iron Ore Geology and Mineralogy | Dr. Sarath Hapugoda |
| 11:25-12:10 | Different techniques for iron ore characterization | Dr. Eugene Donskoi |
| 12:10-13:10 | <i>Lunch</i> | |
| 13:10-14:10 | Iron ore mineralogical and textural characterization Practical demonstration on microscope or slides (depending on availability of microscope) Hand specimens and microscopy Ore types, including BID, CID, DID | Dr. Sarath Hapugoda |
| 14:20-15:20 | Continuation of practical demonstration- Iron oxide mineralogy, ore textural groups (include practical demonstration using polished blocks under the microscope if available, otherwise slide presentation) | Dr. Sarath Hapugoda |
| 15:30-16:30 | Automated optical image analysis, CSIRO software "Mineral4/Recognition4" | Dr. Eugene Donskoi |
| 16:40-17:40 | Automated optical image analysis of iron ore, sinter, coke | Dr. Eugene Donskoi |
| 9.16 (Tue) | Iron ore/sinter characterization and importance of texture for prediction of downstream processing. | |
| 09:30-10:30 | Importance of ore texture for prediction of downstream processing. Case study – "Sinter properties modeling" | Dr. Eugene Donskoi |
| 10:40-11:40 | Importance of ore texture for prediction of downstream processing. Case studies: 1) Hydrocyclone performance modeling 2) Ultrasonic treatment of iron ores | Dr. Eugene Donskoi |
| 11:40-12:20 | Magnetite ore characterization | Dr. Sarath Hapugoda |
| 12:20-13:20 | <i>Lunch</i> | |
| 13:20-14:00 | Ore and Gangue mineralogy and chemistry (Iron ore impurities) | Dr. Sarath Hapugoda |
| 14:10-14:50 | Iron ore sintering & sinter phase classification | Dr. Sarath Hapugoda |
| 15:00-15:40 | Comparative study of iron ore characterisation using a scanning electron microscope and optical image analysis | Dr. Eugene Donskoi |
| 15:50-17:10 | Mineral Liberation Analyzer analysis of iron ore, sinter, coke | Dr. Sarath Hapugoda |
| 17:10-17:30 | Questions and discussion | |

* The working language is English