**Final Workshop program 2020**

**(Alloy Design)**

**Tuesday (January 7)**

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| 8:30 | **Registration (Bldg #33, Room 228)** |
| 9:00 | **Welcome (Bldg #33, Room 228)** |
| 9:15 | **Overview of Thermodynamics (Bldg #33, Room 228): In-Ho Jung**  Gibbs energy, Activity, .., Phase diagram. |
| 10:30 | (Coffee) |
| 10:45 | **FactSage Database overview (Bldg #33, Room 228): In-Ho Jung**  **Data search and simple reaction calculation** (**View Data, Compounds, Reaction**)  - H, S, Cp of compounds  - Preparing new private database  - balanced chemical reactions  - adiabatic reactions, heat cycles |
| 12:15 | (LUNCH) |
| 13:30 | **Equilib-regular (Alloy design: Bldg #33, Room 226): TaeHyung Kim** - Transition calculations (solidus, liquidus, phase transformation)  - Thermodynamic property  - Scheil cooling calculations |
| 15:30 | (Coffee) |
| 15:45 | **Equilib-Advance I (Bldg #33, Room 226): In-Ho Jung**  - Stream calculations  - Paraequilibrium calculations  - Interface reaction  - Open calculation |
| 17:00 | **END OF DAY 1** |

**Wednesday (January 8)**

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| 9:00 | **Phase Diagram-regular (Bldg #33, Room 226): YoonGu Kang**  - Classical binary phase diagrams - Isopleths - Ternary and multicomponent phase diagrams  - Figure module |
| 10:30 | (Coffee) |
| 10:45 | **Equilib advance II: (Bldg #33, Room 228): TaeHyung Kim/YoonGu Kang**  - metal/gas reaction - oxidation  - metal refining: slag/metal/gas reaction  - vaporization  - oxidation |
| 12:15 | (LUNCH) |
| 13:30 | **Case study I: Alloy design & Pyrometallurgical processing: (Bldg #33, Room 228)** |
| 15:00 | (Coffee) |
| 15:15 | **Case study II: Alloy design & Pyrometallurgical processing: (Bldg #33, Room 228)** |
| 17:30 | **END OF DAY 2** |

**Final Workshop program 2020**

**(Pyrometallurgy)**

**Tuesday (January 7)**

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| 8:30 | **Registration (Bldg #33, Room 228)** |
| 9:00 | **Welcome (Bldg #33, Room 228)** |
| 9:15 | **Overview of Thermodynamics (Bldg #33, Room 228): In-Ho Jung**  Gibbs energy, Activity, .., Phase diagram. |
| 10:30 | (Coffee) |
| 10:45 | **FactSage Database overview (Bldg #33, Room 228): In-Ho Jung**  **Data search and simple reaction calculation** (**View Data, Compounds, Reaction**)  - H, S, Cp of compounds  - Preparing new private database  - balanced chemical reactions  - adiabatic reactions, heat cycles |
| 12:15 | (LUNCH) |
| 13:30 | **Equilib-regular (Pyrometallurgy: Bldg #33, Room 228): In-Ho Jung** - Transition calculations (solidus, liquidus, phase transformation)  - Thermodynamic property  - Scheil cooling calculations |
| 15:30 | (Coffee) |
| 15:45 | **Phase Diagram-regular (Pyrometallurgy: Bldg #33, Room 228): JeongMin Cheon**  - Classical binary phase diagrams - Isopleths - Ternary and multicomponent phase diagrams  - Figure module |
| 17:00 | **END OF DAY 1** |

**Wednesday (January 8)**

|  |  |
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| 9:00 | **Equilib-Advance I** **(Bldg #33, Room 228): In-Ho Jung** - Stream calculations  - Interface reactions  - Open calculations  - Viscosity |
| 10:30 | (Coffee) |
| 10:45 | **Equilib-advance II (Bldg #33, Room 228): In-Ho Jung**  - Metal/gas reaction - oxidation  - Refining: slag/metal/gas reaction  - Inclusions evolution |
| 12:15 | (LUNCH) |
| 13:30 | **Case study I: Alloy design & Pyrometallurgical processing: (Bldg #33, Room 228)** |
| 15:00 | (Coffee) |
| 15:15 | **Case study II: Alloy design & Pyrometallurgical processing: (Bldg #33, Room 228)** |
| 17:30 | **END OF DAY 2** |