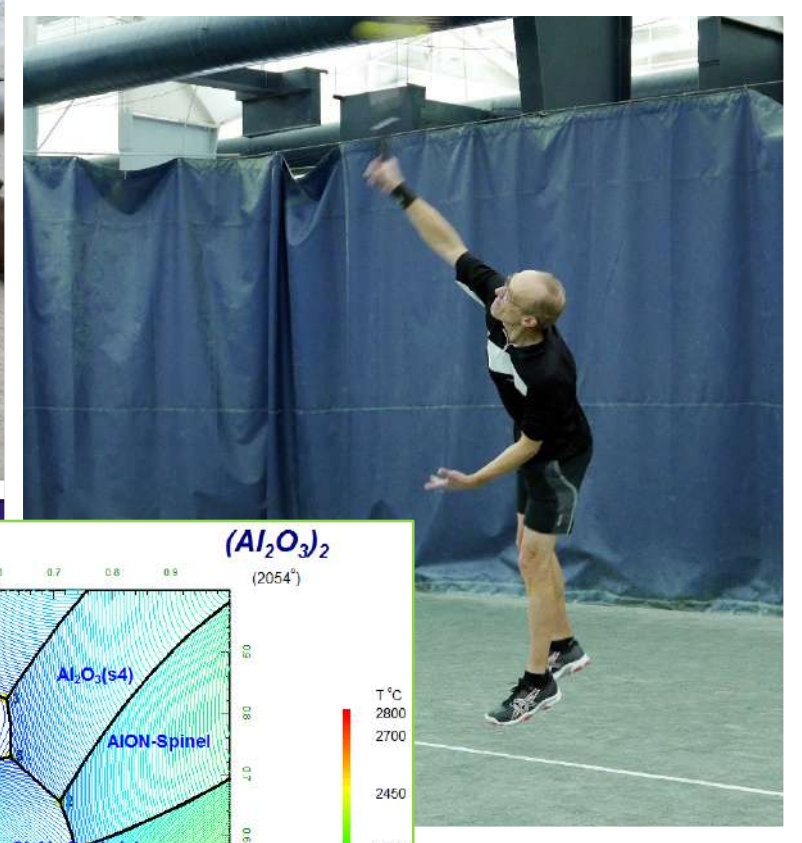


The background features a dark blue gradient with faint, light blue technical diagrams. On the left, a large circular scale is visible, with numerical markings from 140 to 260 in increments of 10. Several circular diagrams with arrows and dashed lines are scattered across the background, suggesting a technical or engineering theme.

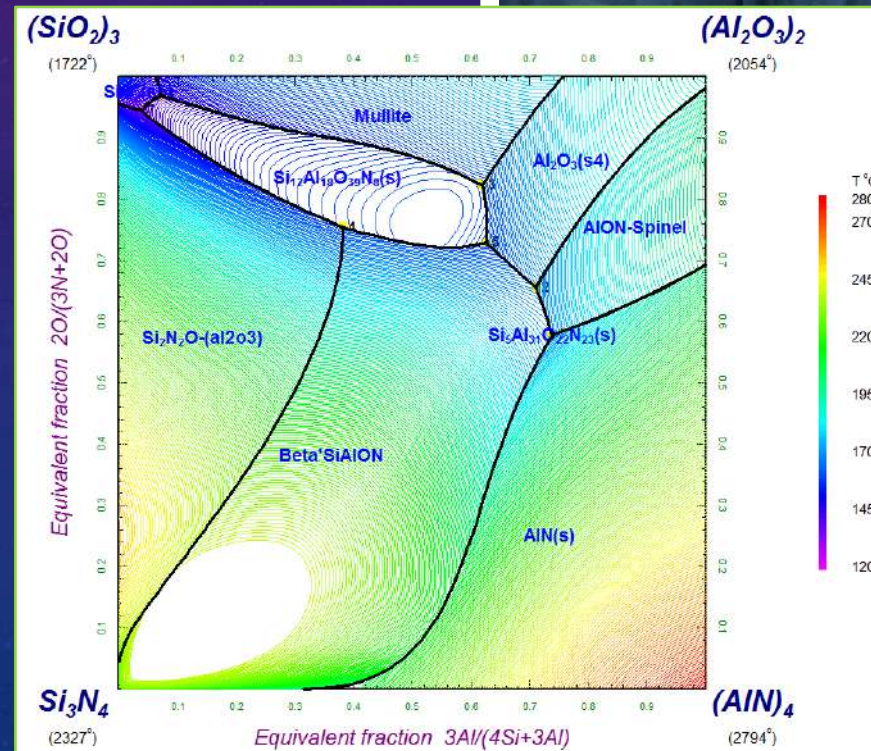
THE PEOPLE OF FACTSAGE

THE SECRET OF SUCCESS IS GETTING
TOGETHER A TEAM OF THE BEST PEOPLE
AND GETTING THEM TO DO THE WORK

SERGEI DECTER



- FToxid (oxide database)
- Viscosity module (oxide melts and glasses)
- Sulfides in database (matte and solid sulfides)
- FToxCN (oxycarbonitride database)

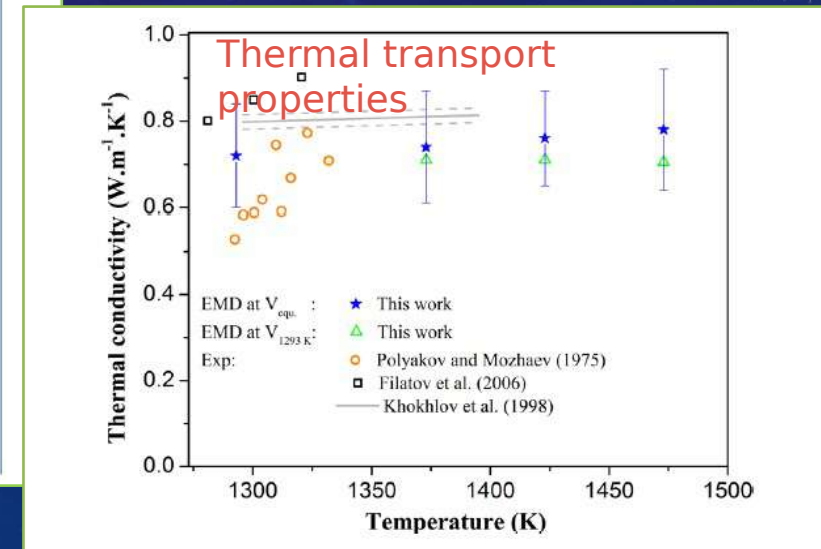
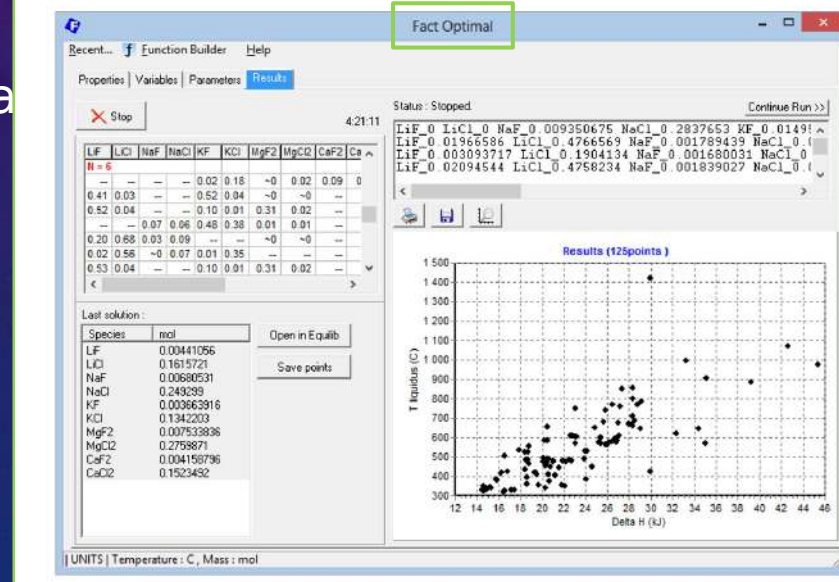


AÏMEN GHERIBI



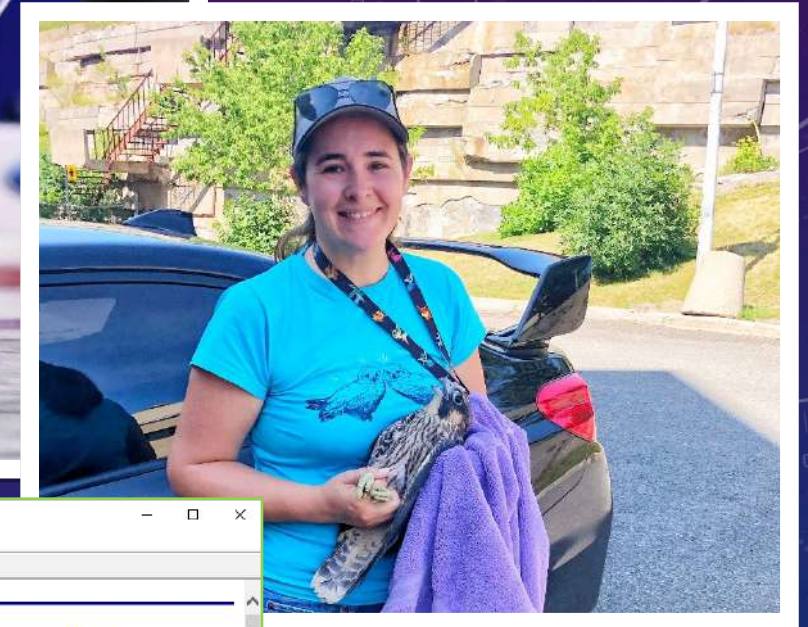
- FactOptimal software
- Physical properties database
- Microstructure module
- Our resident physicist

Calculated *Characteristic Points* in the Li^+ , Na^+ , K^+ , Mg^{++} , Ca^{++} / F^- , Cl^- reciprocal system.



EVE BÉLISLE

- FactSage Browser
- FactXML
- Installation software
- Software troubleshooting
- Programming



The screenshot shows the FactSage 8.0 software interface. The window title is "All Phase Diagrams - FactSage Browser - [FS_All_PD's.htm]". The search bar contains "chemical formula" and "+ trust contain: <ex CaO". The left sidebar shows a tree view of "Database documentation" with "List of all stored phase diagrams" selected. The main content area displays "FactSage 8.0 - List of Stored Phase Diagrams (7604)".

FACT Databases		
FToxid FACT oxide data (490)	FTsalt salt data (344)	FTmisc sulfide, alloy, miscellaneous data (39)
FHall data for Hall aluminum process (14)	FTpulp pulp and paper data (22)	FHelg aqueous (Helgeson) data (0)
FLite light metal alloy data (855)	FToxCN high temperature oxycarbonitrides (55)	FLfritz fertilizer (210)

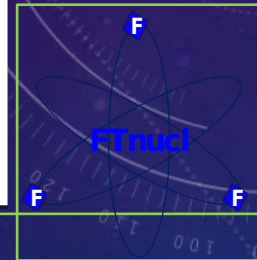
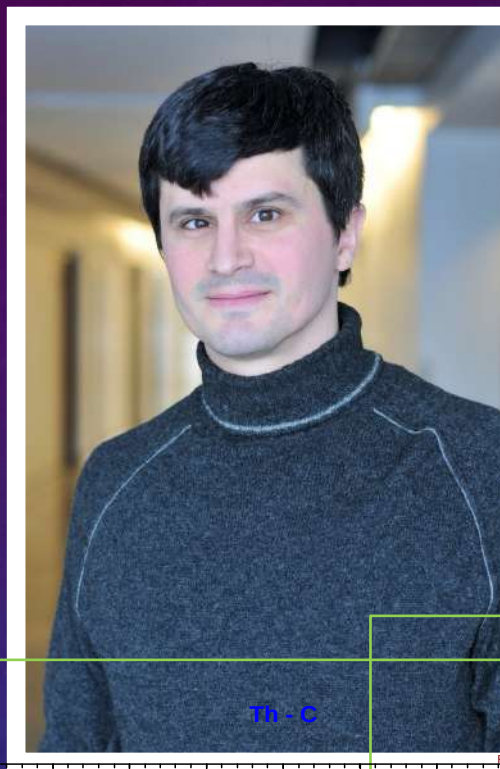
FactSage Databases		
EScopp copper alloy data (422)	ESlead lead alloy data (161)	ESsteel steel alloy data (221)
FSupsi ultrapure silicon data (0)		

SGTE Databases		
SGTE2014 2014 alloy data (970)	SGTE2017 2017 alloy data (1176)	SGTE2020 2020 alloy data (1300)
SGnobl 2010 noble metal alloy data (313)	SGsold solder alloy data (164)	BINARY free binary SGTE alloy data (108)

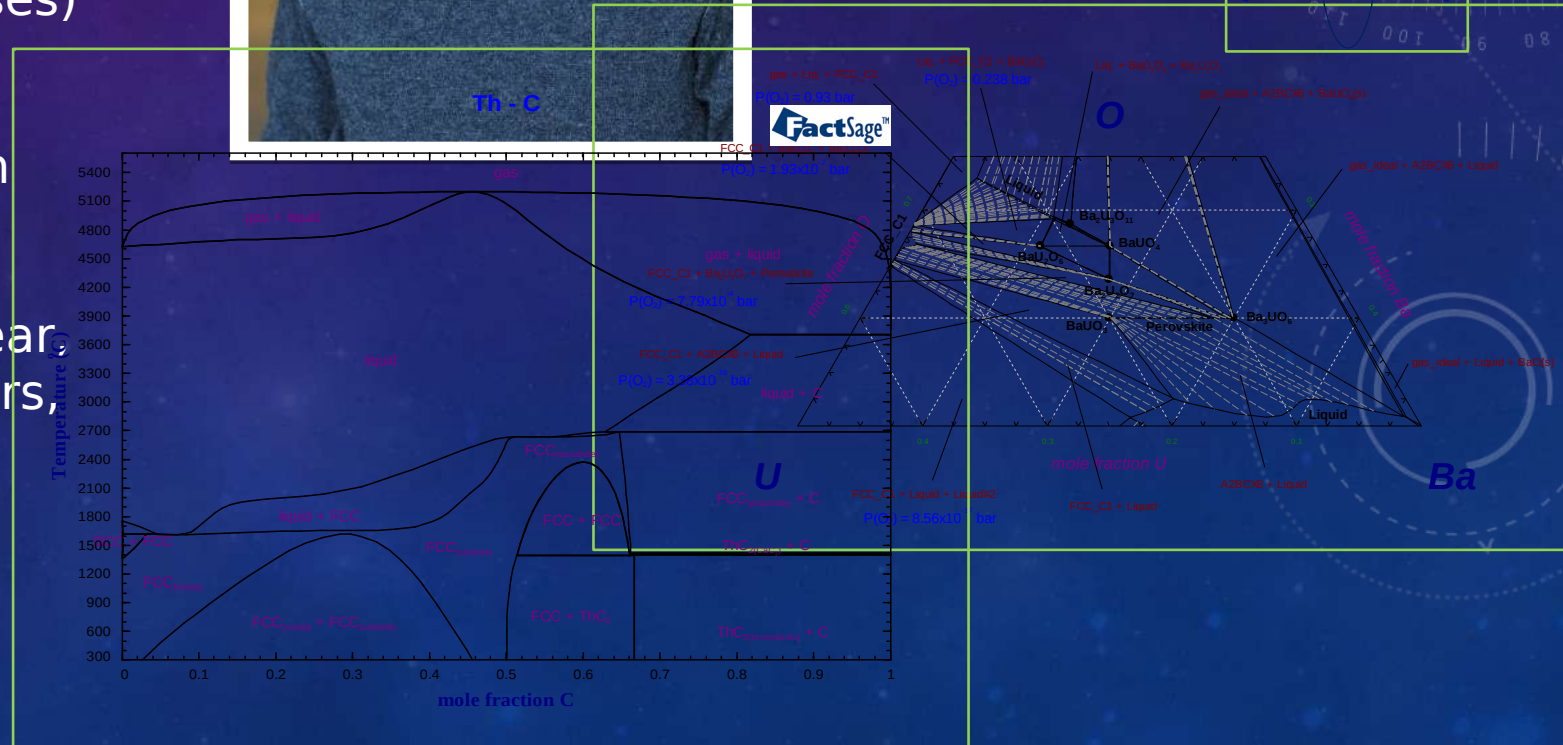
Other Databases		
TDmeph IRSN Mephista nuclear database (0)	TDnucl IRSN Nuclea nuclear database (0)	SpMCSN Spencer Group M.C.N.-B.Si alloys (740)

Revised: 2020-12-22

PATRICE CHARTRAND

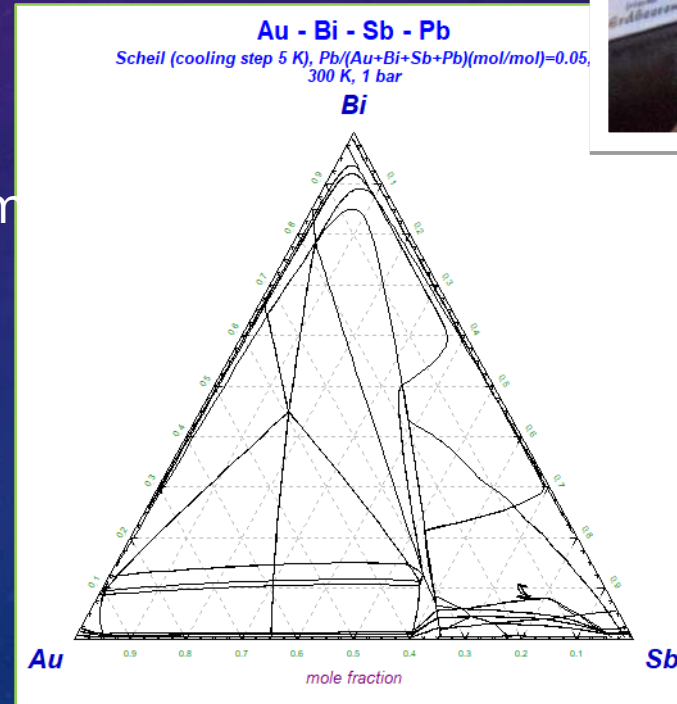


- All aspects of **FactSage** (modelling, programming (Figure), databases)
- Graduate student supervision
- OptiSage optimisation program
- Physical properties
- (Databases: light metals, nuclear salt, copper, lead, gall, fertilizers, pulp)



GUNNAR ERIKSSON

- The **S**OLGASMIX-based **A**dvanced **G**ibbs **E**nergy minimizer, the **h**eart of **F**actSage
- OptiSage optimisation program
- Equilib and Phase Diagram program
- ChemApp

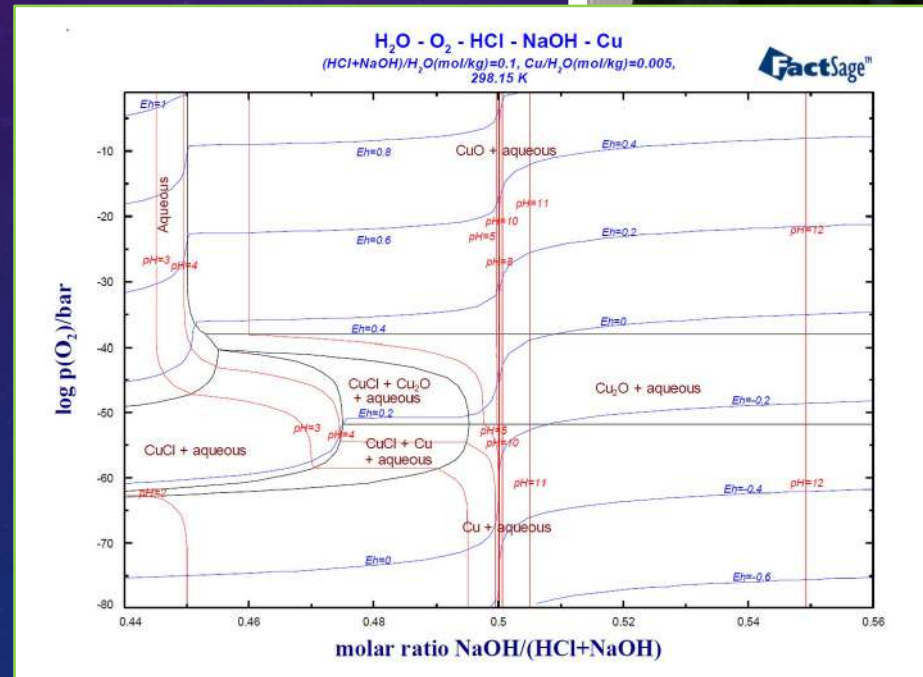


F : 5+8+10	: HCP_A3 + AUSB2 + AuPb2_AUPB2(s)
G : 5+8+9	: HCP_A3 + AUSB2 + Au2Pb_AU2PB(s)
H : 5+6+8+9	: HCP_A3 + RHOMBOHEDRAL_A7 + AUSB2 + Au2Pb_AU2PB(s)
J : 6+8+9	: RHOMBOHEDRAL_A7 + AUSB2 + Au2Pb_AU2PB(s)
K : 7+9	: AU2BI_C15 + Au2Pb_AU2PB(s)
M : 7+8+9	: AU2BI_C15 + AUSB2 + Au2Pb_AU2PB(s)
N : 7	: AU2BI_C15
P : 7+8	: AU2BI_C15 + AUSB2
Q : 6+7+8	: RHOMBOHEDRAL_A7 + AU2BI_C15 + AUSB2
R : 6+7	: RHOMBOHEDRAL_A7 + AU2BI_C15
S : 6+9	: RHOMBOHEDRAL_A7 + Au2Pb_AU2PB(s)
T : 5+6+9	: HCP_A3 + RHOMBOHEDRAL_A7 + Au2Pb_AU2PB(s)
U : 6	: RHOMBOHEDRAL_A7
V : 5+6	: HCP_A3 + RHOMBOHEDRAL_A7
W : 5+6+8	: HCP_A3 + RHOMBOHEDRAL_A7 + AUSB2
X : 6+8	: RHOMBOHEDRAL_A7 + AUSB2
Y : 3+6+8	: FCC_A1 + RHOMBOHEDRAL_A7 + AUSB2
Z : 3+6	: FCC_A1 + RHOMBOHEDRAL_A7
A2 : 3+8	: FCC_A1 + AUSB2
B2 : 5+8	: HCP_A3 + AUSB2
C2 : 8	: AUSB2
D2 : 3+8+11	: FCC_A1 + AUSB2 + AuPb3_AUPB3(s)
E2 : 8+11	: AUSB2 + AuPb3_AUPB3(s)
F2 : 8+10+11	: AUSB2 + AuPb2_AUPB2(s) + AuPb3_AUPB3(s)
G2 : 6+7+8+9	: RHOMBOHEDRAL_A7 + AU2BI_C15 + AUSB2 + Au2Pb_AU2PB(s)
H2 : 8+9+10	: AUSB2 + Au2Pb_AU2PB(s) + AuPb2_AUPB2(s)
J2 : 5+8+9+10	: HCP_A3 + AUSB2 + Au2Pb_AU2PB(s) + AuPb2_AUPB2(s)
K2 : 3+5+8+10	: FCC_A1 + HCP_A3 + AUSB2 + AuPb2_AUPB2(s)
M2 : 3+7+8	: FCC_A1 + AU2BI_C15 + AUSB2

KLAUS HACK AND STEPHAN PETERSEN



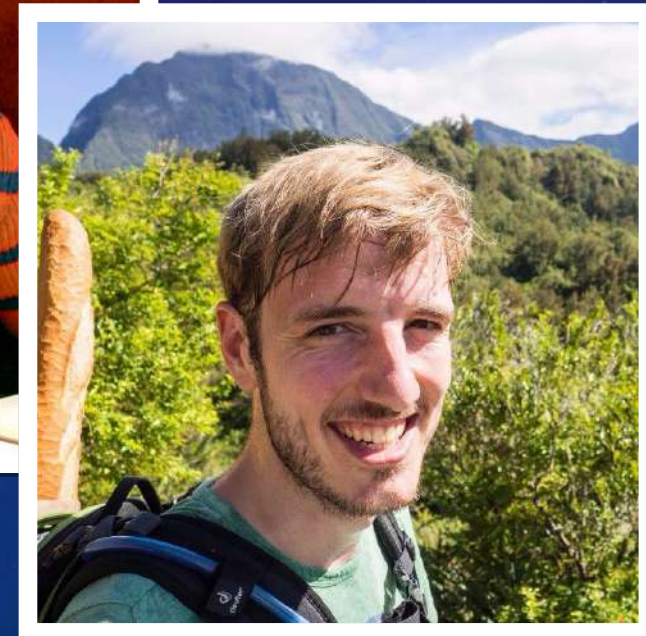
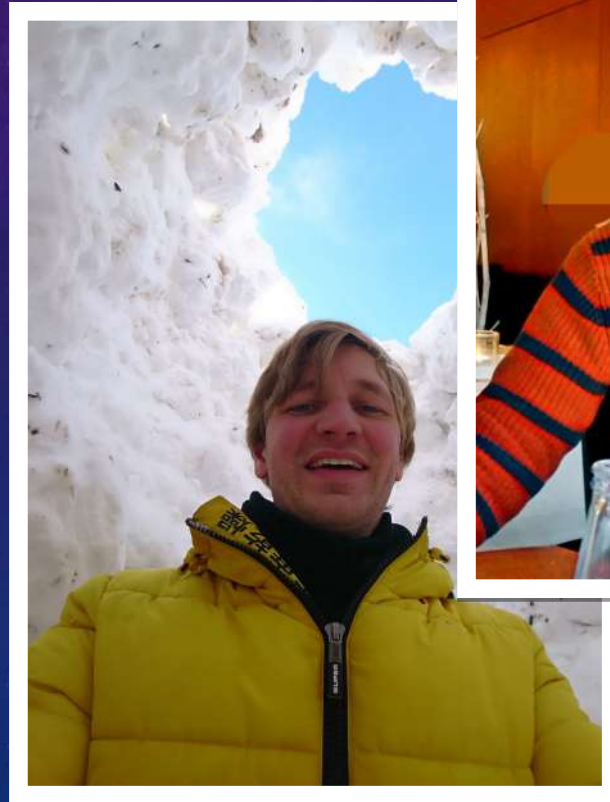
- Database development
- Ideas for new calculational capabilities
- ChemApp
- SimuSage



MORITZ TO BABEN, WAJAHAT M. KHAN AND FLORIAN TANG



- Classical and non-classical applications
- Support
- Security
- TDB converter

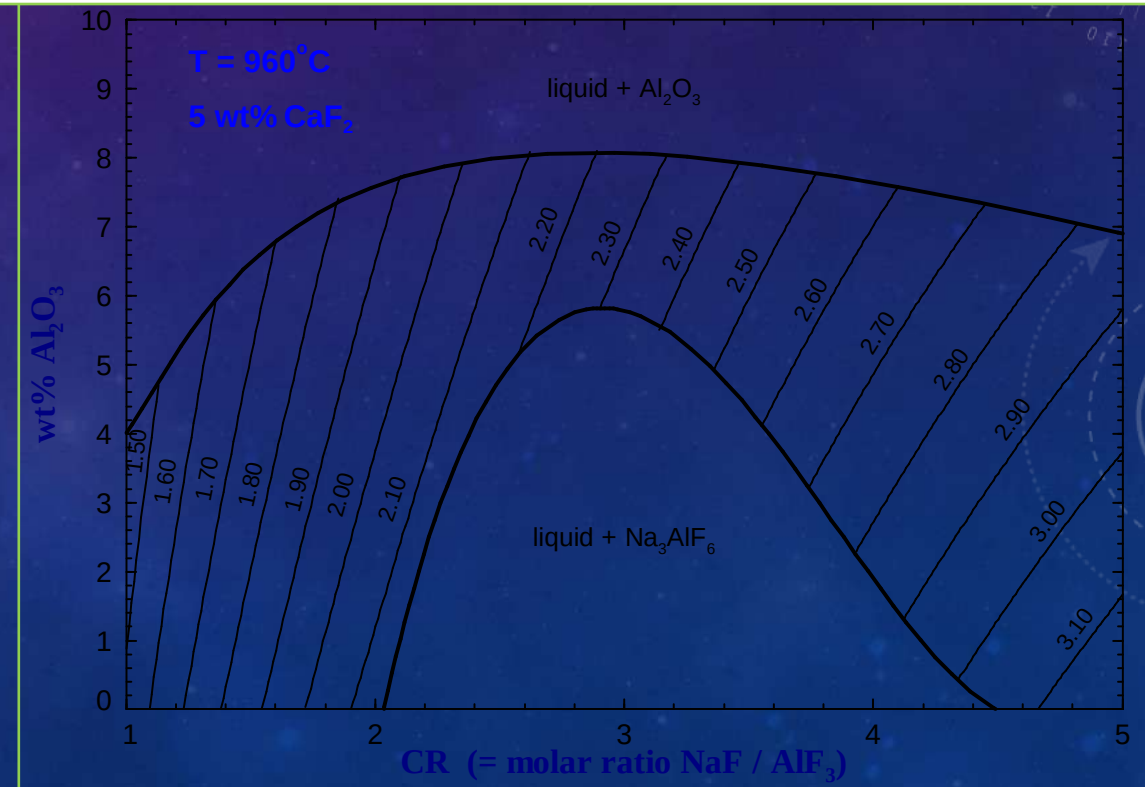


CHRISTIAN ROBELIN



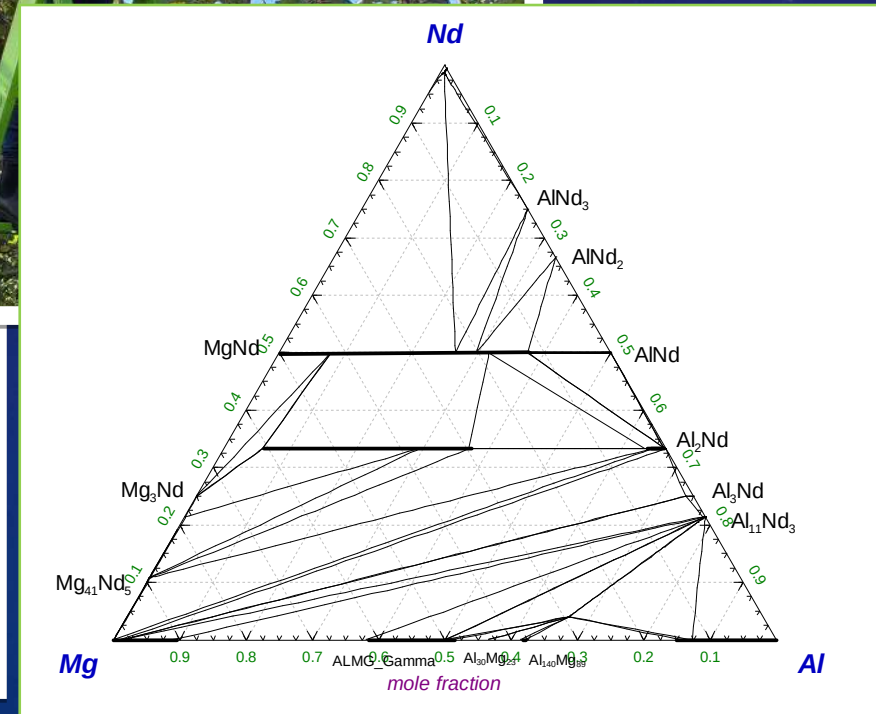
- Development of thermodynamic and physical property databases for inorganic salt systems (FTsalt, FThall, FTfritz) and ionic liquid systems

Calculated iso-ionic conductivity (S/cm) curves for NaF-AlF₃-CaF₂-Al₂O₃ melts



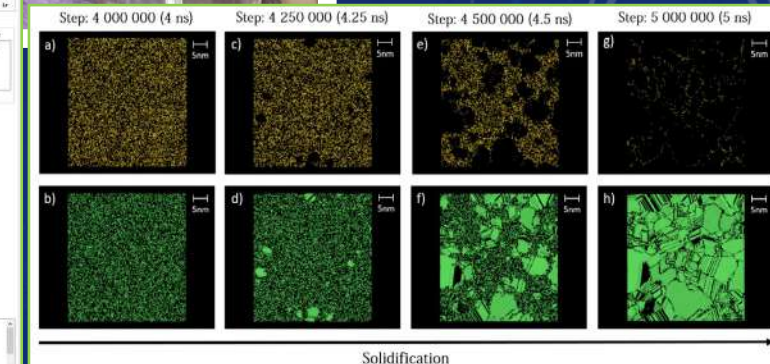
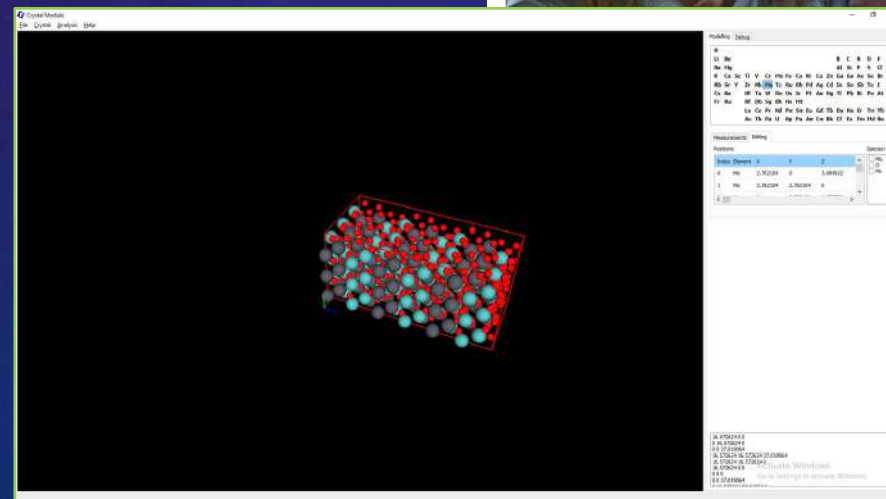
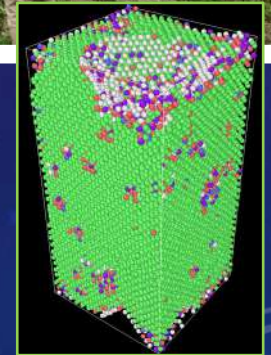
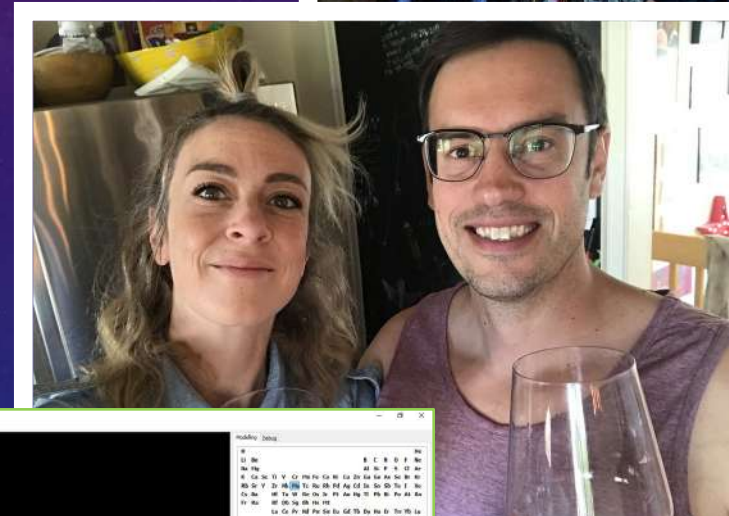
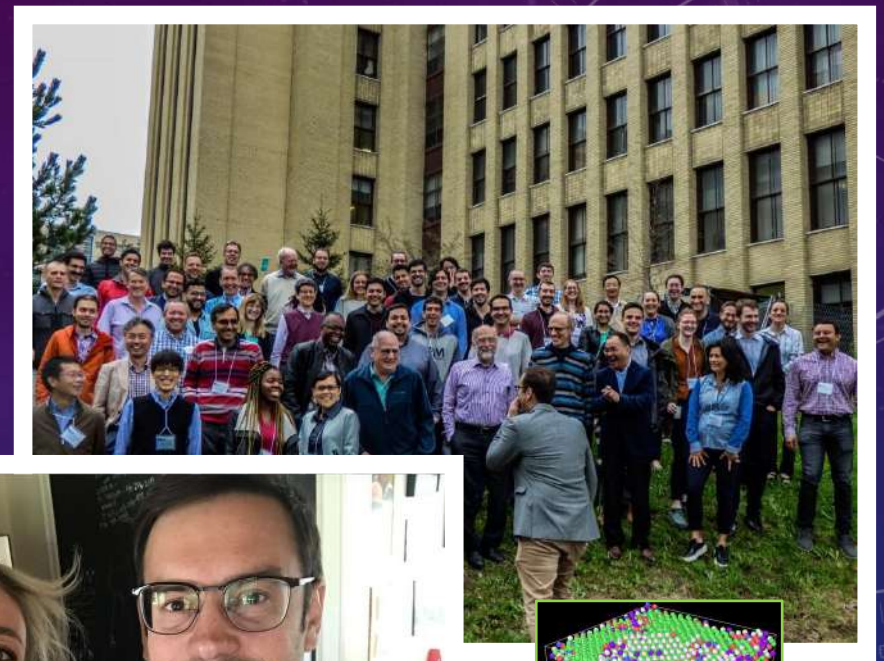
LILING JIN

- Alloy databases development



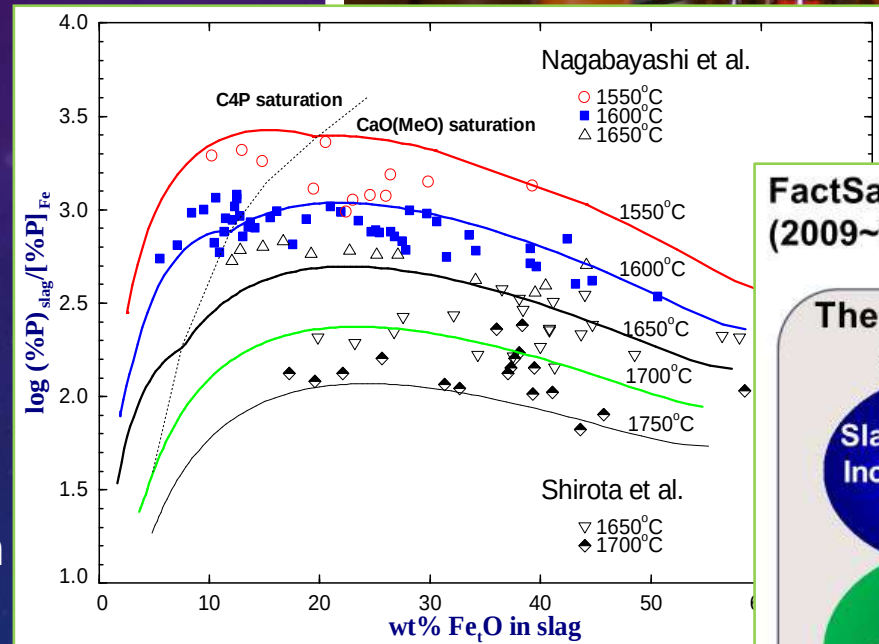
JEAN-PHILIPPE HARVEY

- All aspects of **FactSage** (modelling, programming, databases)
- Graduate student supervision
- Atomistic simulations (new Crystal module)
- Process simulation



IN-HO JUNG

- FToxid (Oxide) database
- FSstel (Steel) database
- Viscosity database
- Application of **FactSage** for pyrometallurgical process and alloy design
- Steelmaking Consortium Project (12 companies)
- FIRE Refractory Consortium Project (7 companies)



FactSage Steelmaking Consortium Project (2009~2023)



Thermodynamic database

Slag/Refractory/
Inclusions/Flux/
Steel

Slag:
Viscosity,
Molar volume,
Thermal
Conductivity, etc

Physical Property database

Kinetic Process Simulation models (EERZ Concept)

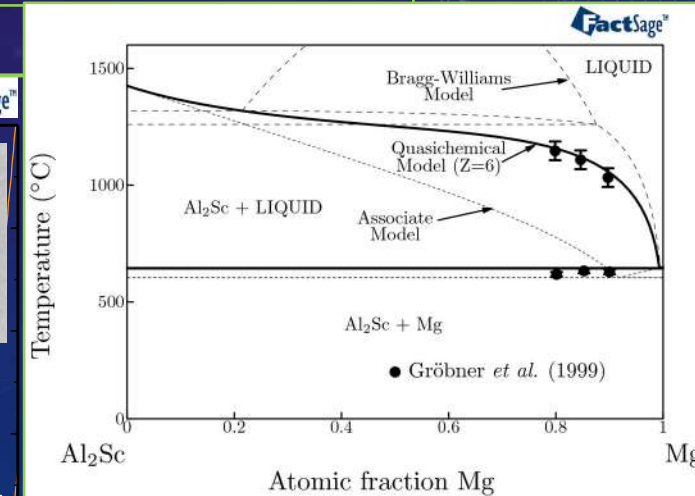
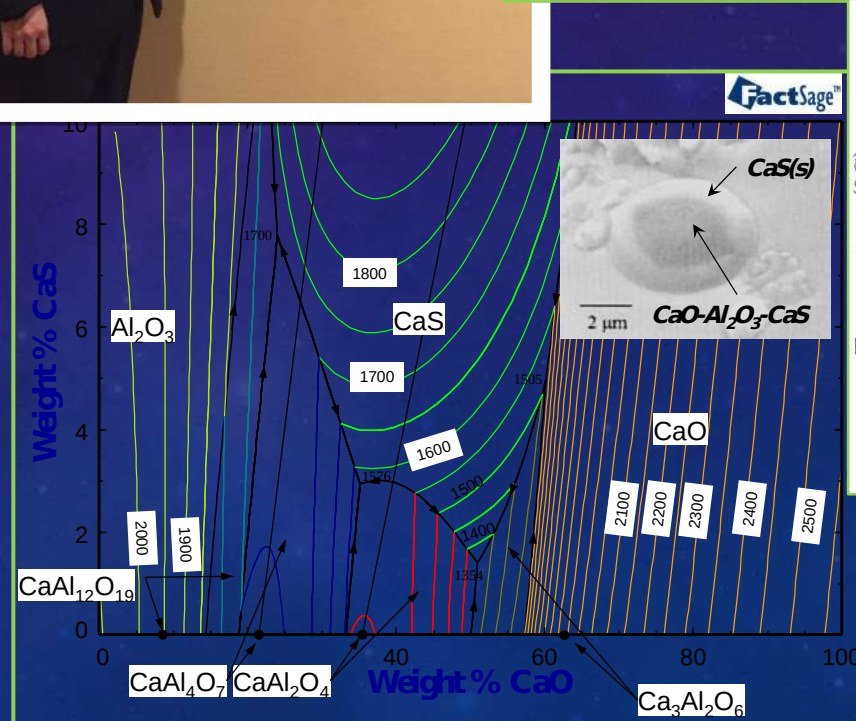
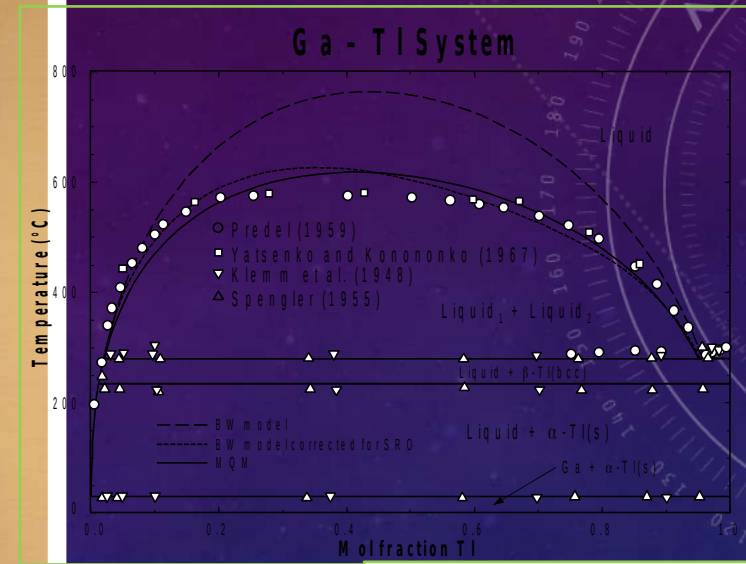
- Secondary Refining Units
- Continuous Casting Process

Combining Thermodynamics & Mass transfer based on numerical analysis and plant sampling data

YOUN-BAE KANG



- Oxide (+ oxysulfide) databases and alloy database development
- Application to steelmaking/casting process
- Model performance validation



JACQUES MELANÇON



- Compound module
- Solution module

F Energy: Joules Pressure: atm MgCl2

File Edit Units View Tools ViewData Help

Formula

Tree view:
BINSBASE
ELEMBASE
EXAMBASE
MgCl2
S1
Cp 987

Properties:
 ΔH_{298} : -668000 J/mol
 S_{298} : 78.99999999999999 J/(mol K)
from 298.150 K to 987.000 K

Buttons: Cp, H, S, G, Edit

G expression for S1:
 $G(T) = -694738.84063152 T^0 + 457.399413912727 T^1 - 79.1 T^2 - 0.00297 T^3 + 431000 T^4$

Note: $T^{99} \Rightarrow \ln T$

T	In T
0.00	
1.00	
2.00	
-1.00	

FactSage Modified C:\FactSage\USERDATA\EXAMPLEBASE.CDB (v5.0) 0 compounds read/write

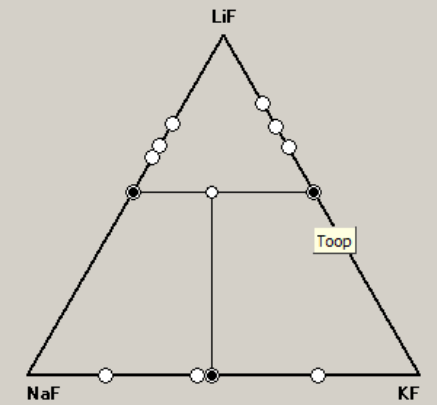
F SoluSage (Joules)

File Edit Units Options Tools Help

Function Name

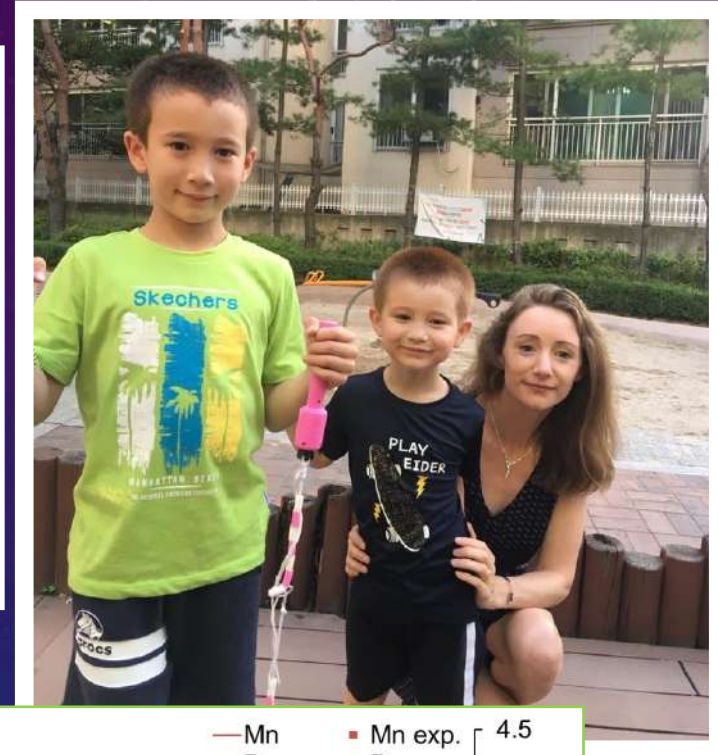
Tree view:
Solutions (1)
SALT(4-2)
SubLattices
A (3)
Li (A)
Na (B)
K (C)
B (2)
F (A)
SO4
End Members (6)
LiF
Li2SO4
NaF
Na2SO4
KF
K2SO4
Mixables (0)
Ternary Interpolation
Li:Na:K//F

Text:
LiF - NaF Toop X(LiF) constant
NaF - KF Muggianu
KF - LiF Toop X(LiF) constant

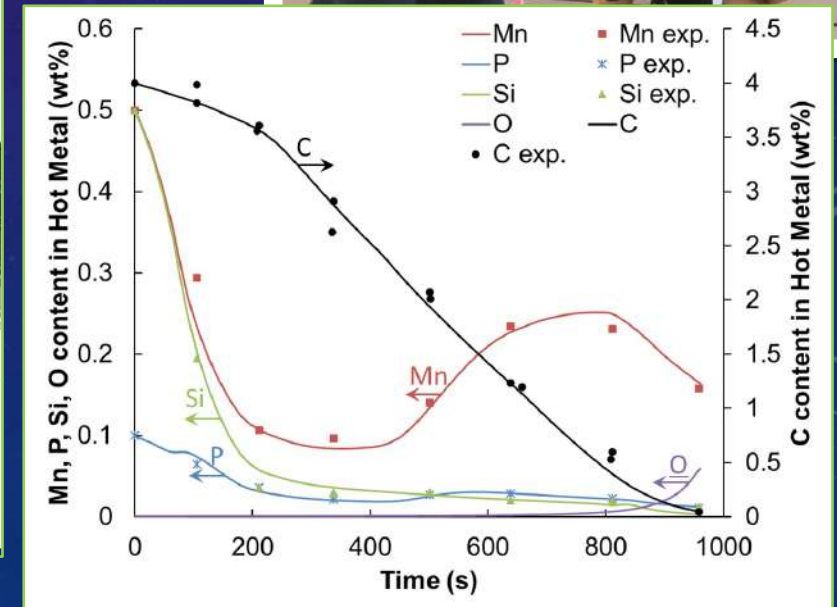
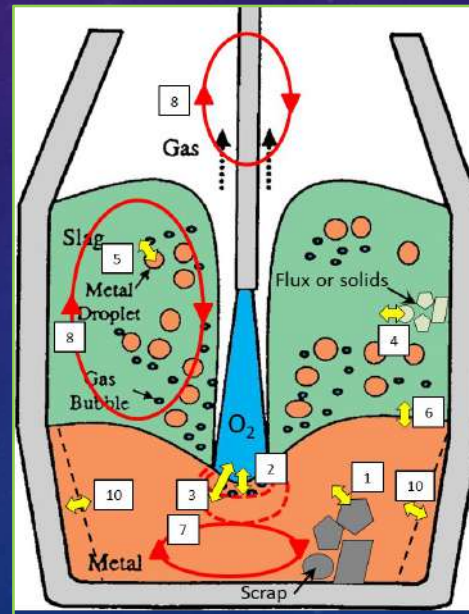


C:\FactSage641\SolCsoln.sln

MARIE-ALINE VAN ENDE

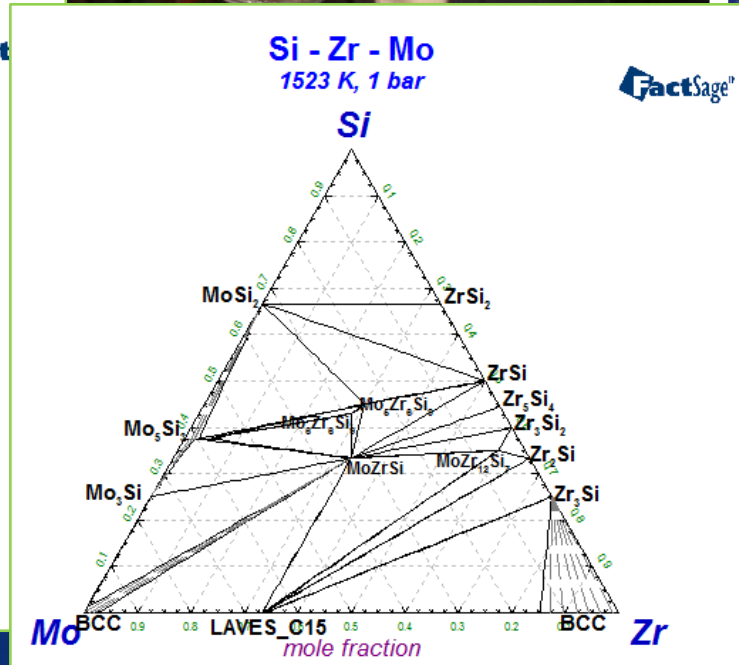
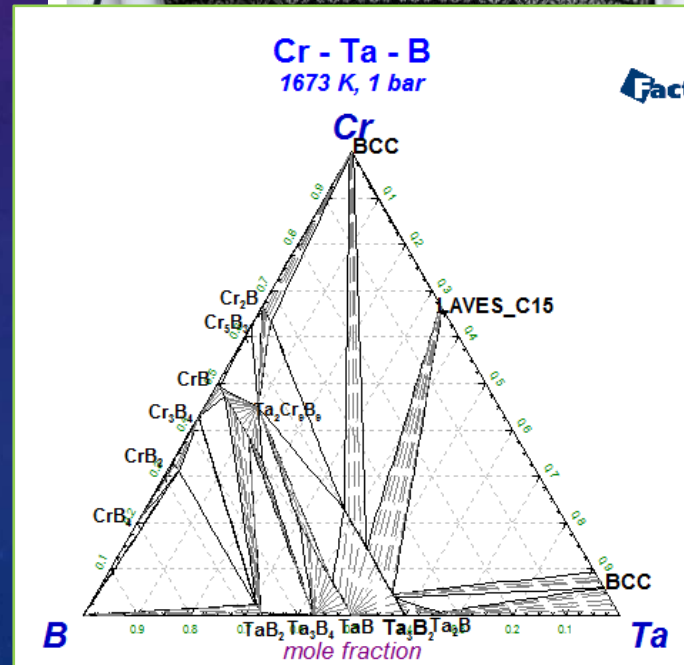
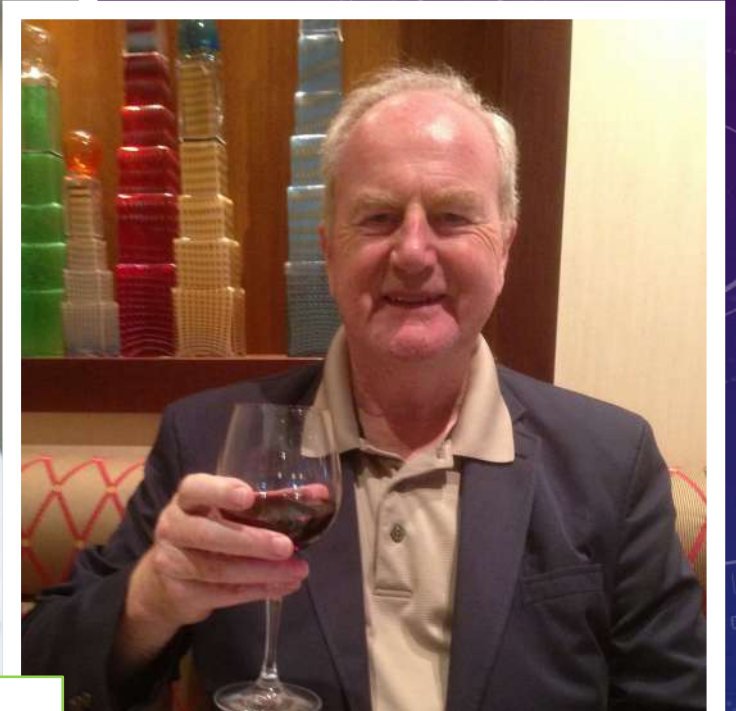


- **FactSage** Macro Processing (workshops and process simulations)
- Applications of **FactSage** for pyrometallurgical processes



PHILIP SPENCER

- Steel database
- Refractory alloy database
- Noble metals database
- Light metals, copper, lead, ultrapure silicon databases



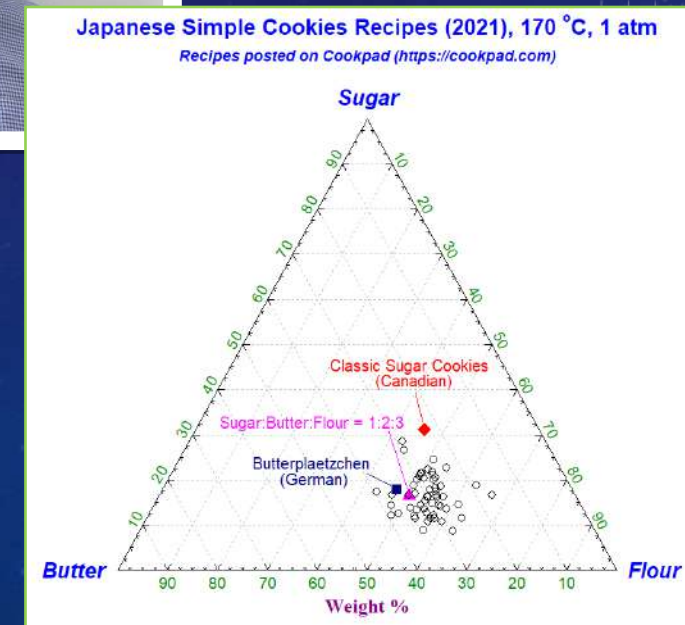
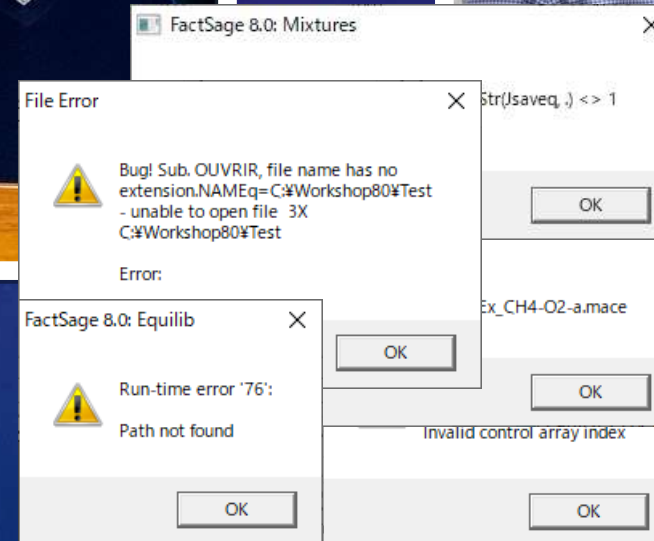
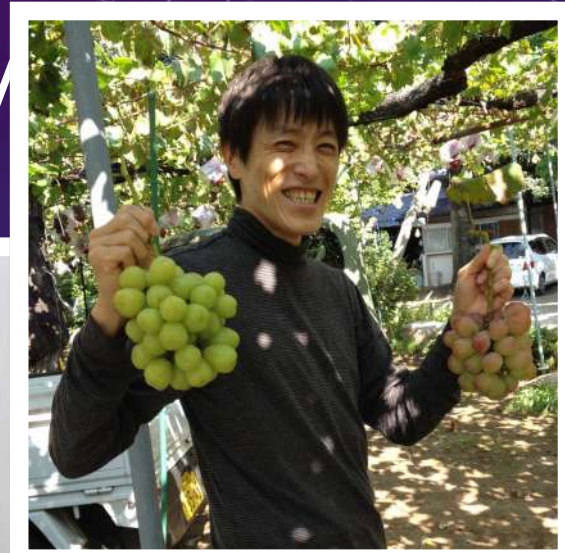
BILL THOMPSON

- A founding father of **FactSage**

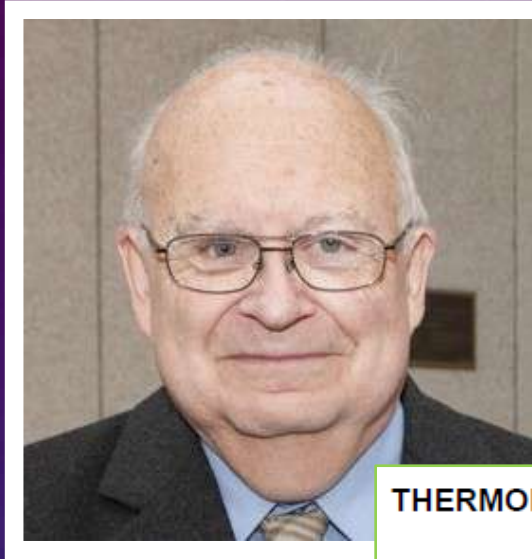


ZHANMIN CAO AND DAIGEN FUKAYAMA

- Beta-testing and error checking



JAMES SANGSTER



- FACT pure substances database

THERMODYNAMIC PROPERTIES OF BINARY SYSTEMS OF DRUGS

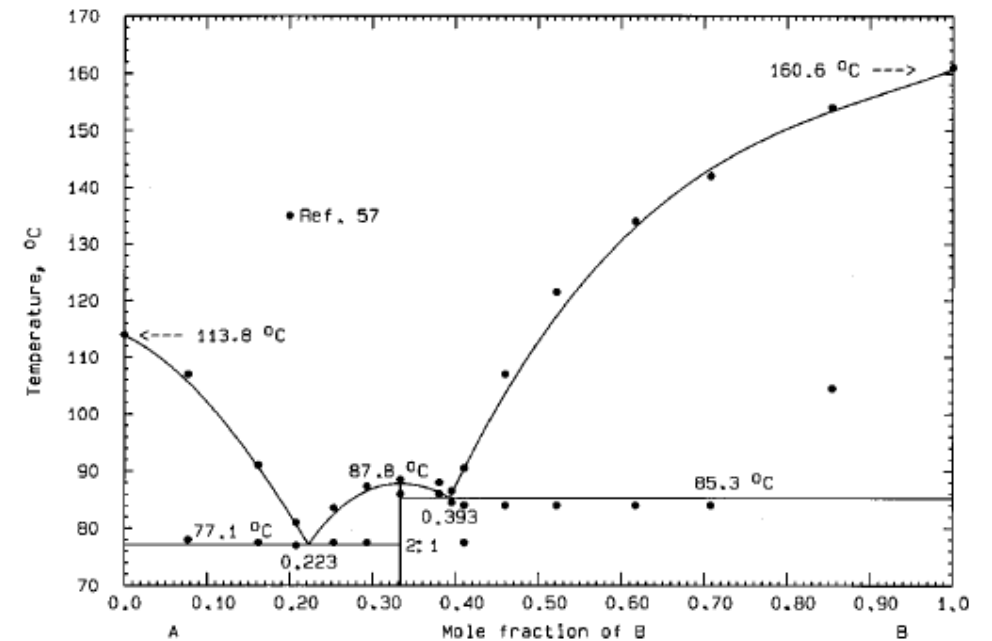


Fig. 24. The system 4-nitrophenol (A)+etofylline (B).

EVGUENIA SOKOLEN

- Technical assistance





COLLEAGUES AND

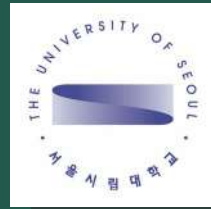
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- Dr. Aïmen Gheribi
- Dr. Jacques Melançon
- Dr. Christian Robelin
- Dr. James Sangster
- Dr. Liling Jin
- Ms. Evguenia Sokolenko

The Spencer Group

- Dr. Philip Spencer



- Prof. In-Ho Jung
- Dr. Marie-Aline Van Ende

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- Prof. Klaus Hack
- Dr. Stephan Petersen
- Dr. Juergen Korb
- Dr. Moritz to Baben
- Dr. Wajahat Kahn
- Dr. Florian Tang

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- Yuichi Nagano (Japan)
- Zhanmin Cao (China)
- In-Ho Jung (Korea)
- Tridiagonal Ltd. (India)
- Marinda Zietsman (S. Africa)
- Eugene Jak (Australia)
- Peilin Mao (Singapore)
- Nubia Cardona Valencia (S. America)
- Leonardo Barboza Trindade (Brazil)
- Tanai Marin (N. America)
- Dr. Dennis Shishin (U. Queensland)
- Dr. Viktoria Prostakova (U. Queensland)
- Prof. Zhanmin Cao (USTB)