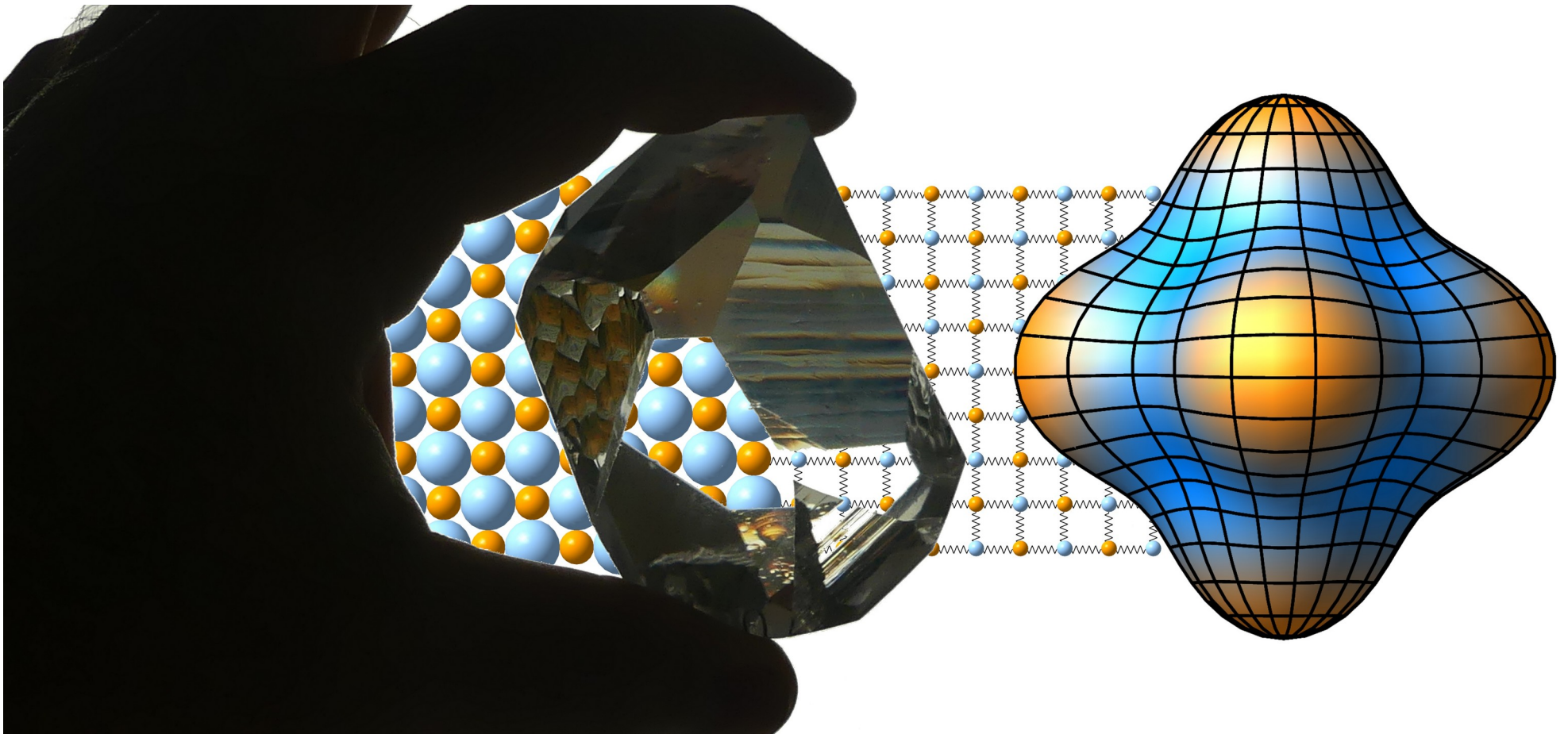


Crystallography Short Course

Prof. Dr. Jürgen Schreuer & Dr. Marie Münchhalfen

March 6th – 8th, 2023, daily 9:30 to 17:30

UNSJ, Departamento de Geología, sala de conferencias de posgrado



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Lecturers: Prof. Dr. Jürgen Schreuer & Dr. Marie Münchhalfen

	March 6 th	March 7 th	March 8 th	March 9 th
Morning session (9:30 - 13:00) ~90 min lecture ~30 min break ~90 min exercises	Lecture 1: What are crystals? Historic development of the concept of crystals up to the modern atomistic one.	Lecture 3: Point groups Symmetry elements, point groups, crystal systems and classes, Miller indices, forms	Lecture 5: Packing concepts Sizes of atoms and ions, geometric concepts of dense packings, sphere packings, Pauling's rules	Exam (1 h) For all participants who wish to receive credit points for successful participation.
Afternoon session (14:00 - 17:30) ~90 min lecture ~30 min break ~90 min exercises	Lecture 2: Reference systems Crystallographic, reciprocal and Cartesian reference systems for description of crystal lattices and structures.	Lecture 4: Space groups Bravais lattices, symmetry elements, space groups, use of <i>International Tables of Crystallography</i>	Lecture 6: Crystals are not for ever Lattice vibrations, crystal defects, phase transitions	

- **No prior knowledge of crystallography is required!**
- Basic knowledge of trigonometry and vector arithmetic is advantageous.
- The participants need writing materials, a set square and a calculator.
- The exercises are hands-on.
- Language is English.
- A laptop with the freely available VESTA software is advantageous: <https://jp-minerals.org/vesta/en/>