

Project acronym: MULTIMAT

Project ID: 505226

Project Participant: EMAT, University of Antwerp

Personal Information

Name: Shanshan Cao

Nationality: Chinese

Previous place of education: Zhejiang University

Stay in the Network

Starting data: 1st January 2007

Duration: 21 months

Category: ESR

Place: Antwerp

County: Belgium

Background of Education:

- **Bachelor:**

University: Zhejiang University, China, 2001-2005

Major in: Material Science and Engineering

- **Master** □

University: University of Antwerp, Belgium, 2005-2006

Major in: Nanophysics

I started my PhD thesis within the MULTIMAT project in Jan. 2008. I'm working on the 3D reconstruction of the Ni_4Ti_3 precipitates in Ni-Ti alloys via the FIB/SEM dual-beam system, in order to study how the distribution, size and morphology of these precipitates affect the martensitic transformation of the alloy.

I appreciate the MULTIMAT project a lot, since this framework builds excellent connections between researches of all aspects on martensitic transformation, and most important, provides a great platform for communication and collaboration, from which I indeed benefit a lot: I've attended the MULTIMAT meetings in Prague, Oxford and Rome, as well as the international congress of 8MCM. Some training

on FIB/SEM has also been taken. So far, for a $\text{Ni}_{51}\text{Ti}_{49}$ alloy, 2D cross-section images with optimized conditions have been obtained in FIB/SEM. Proper image processing has been searched. Some preliminary qualitative and quantitative data of the precipitates has already been extracted from the 3D reconstruction, such as the 3D visualization, volume fractions of Ni_4Ti_3 precipitates and TiC impurity, the composition and M_s change of the matrix, angles between different variants, distances between different precipitates, ect.. And most of the study has been published.