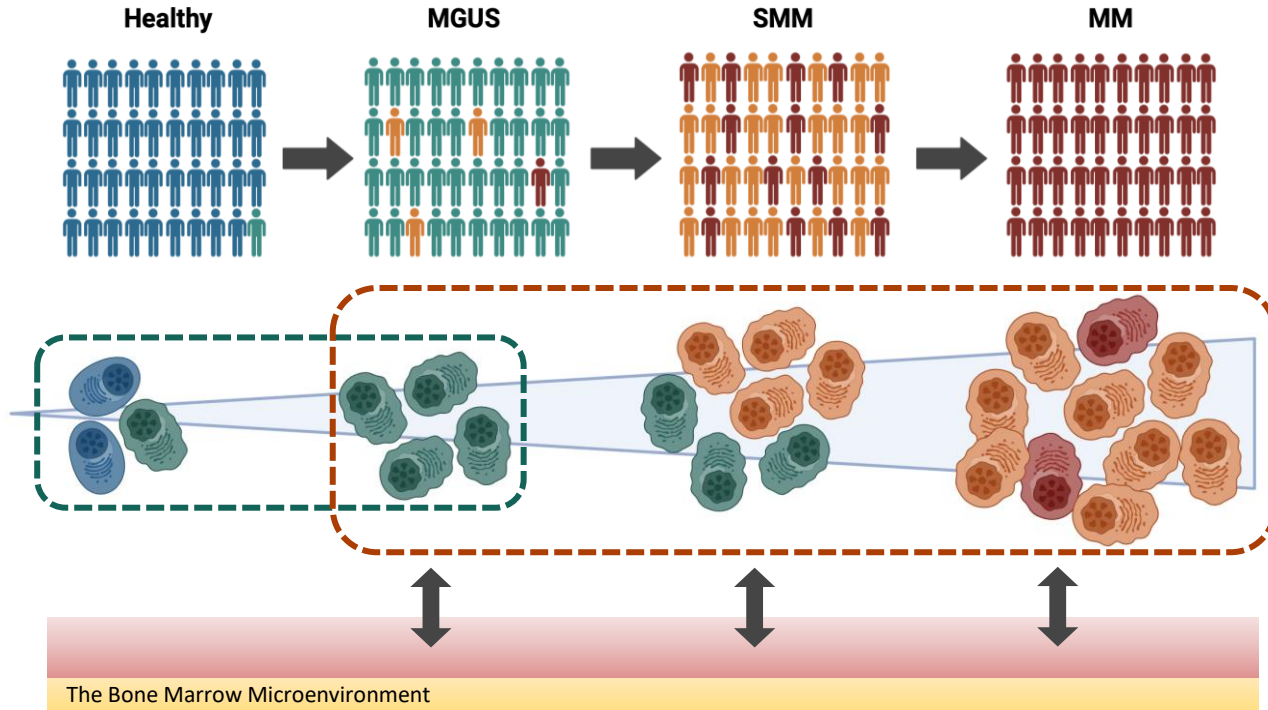


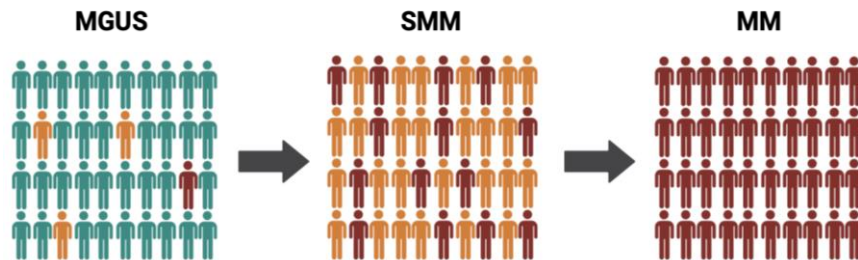
Progression from smouldering myeloma to myeloma is accompanied by an increase in CD56^{bright} bone marrow resident NK cells with reduced NK cell cytotoxic capacity

Elise Rees, PhD
UCL Cancer Institute

Myeloma disease progression



Myeloma disease progression



Baseline

Progression



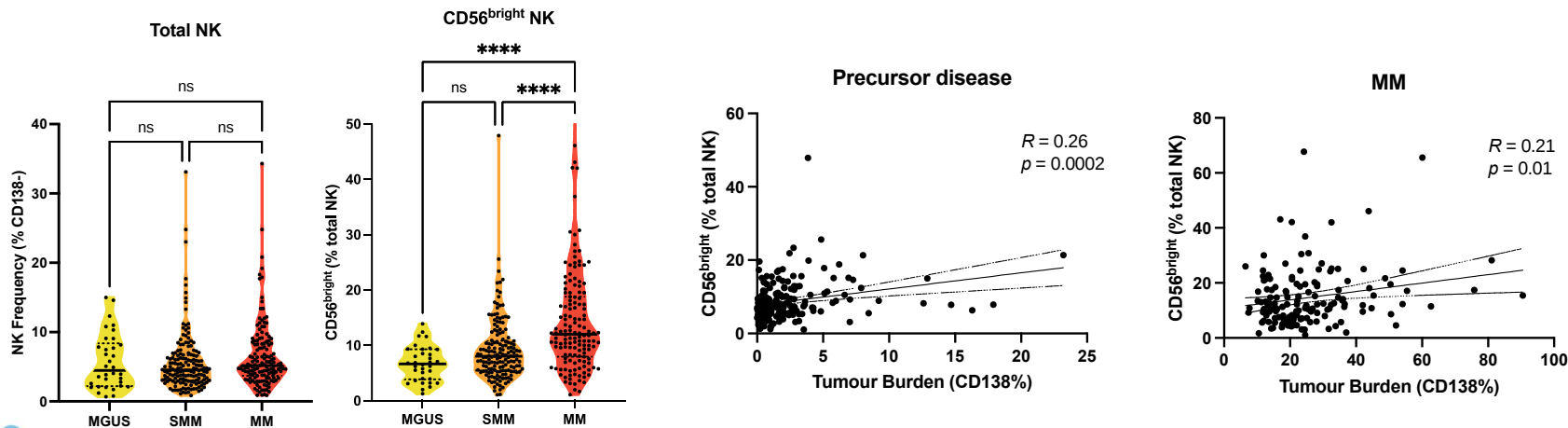
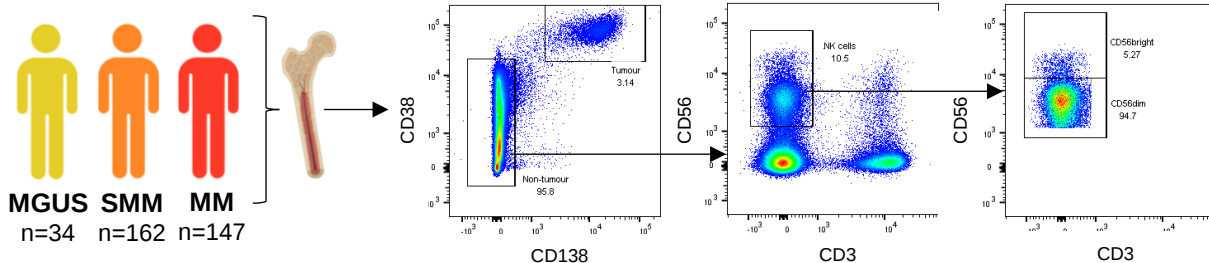
Identify clinical and biological features
associated with progression



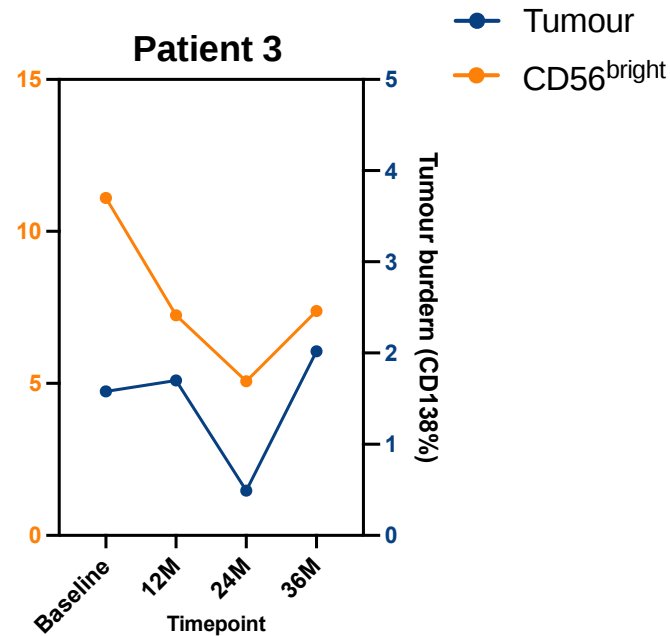
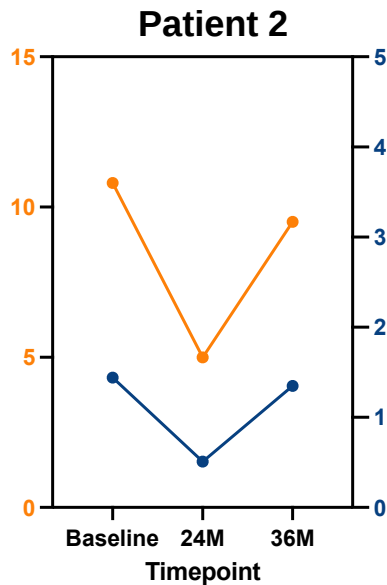
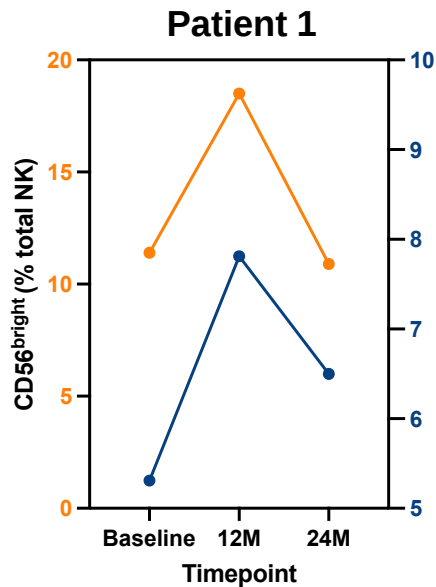
Aims and objectives

1. Characterise NK cell distributions across myeloma stages
2. Determine functional capacity of patient NK cells
3. Explore the role NK cells play in progression

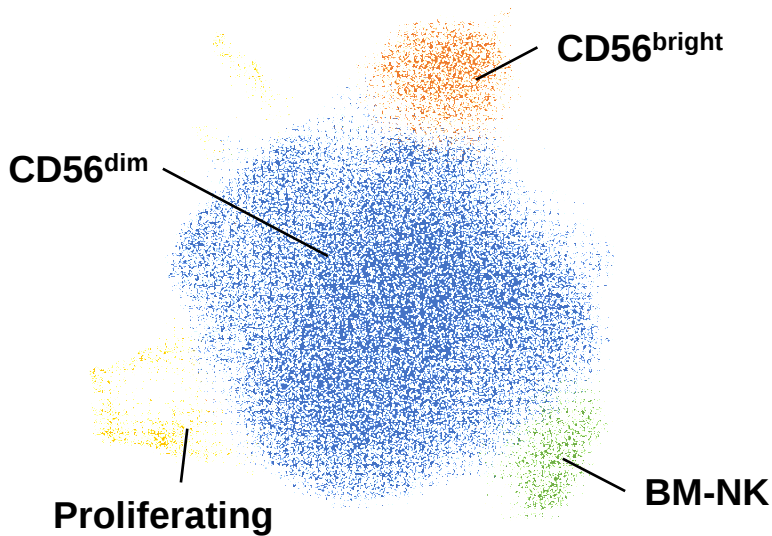
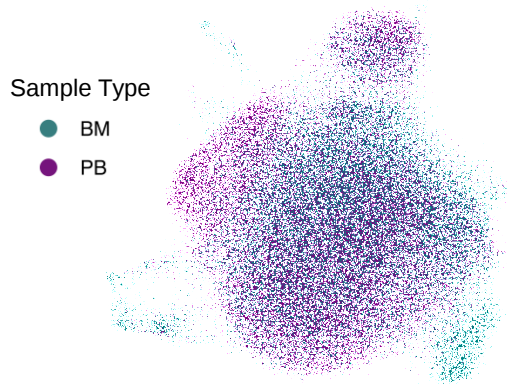
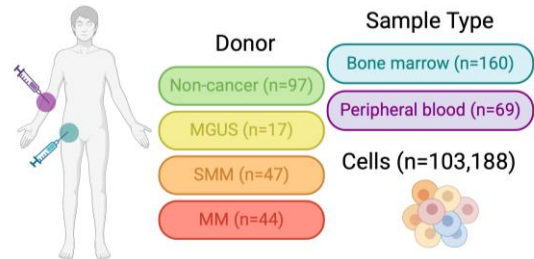
CD56^{bright} NK cells increase along progression



CD56^{bright} NK cell frequency follows tumour burden



scRNAseq dataset of NK cells



Isa Sodi

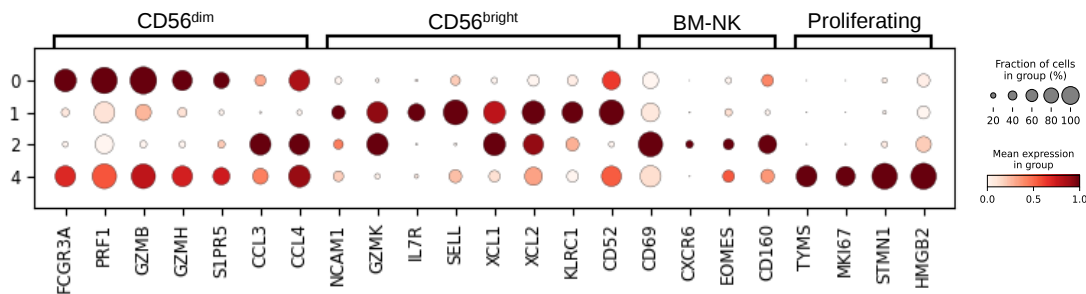
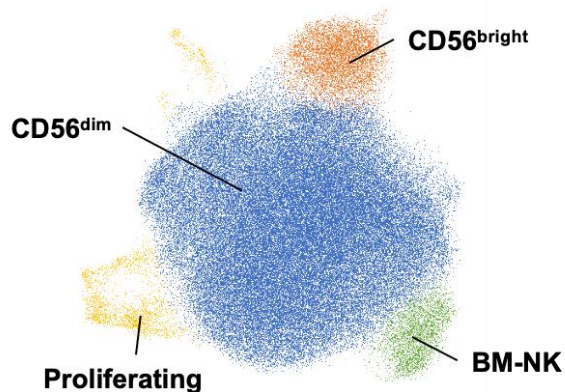


Kane Foster

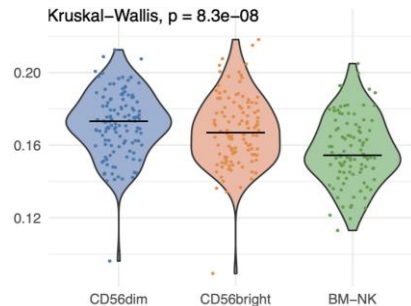


Louise Ainley

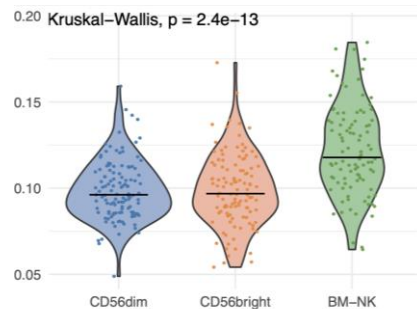
Identification of a tissue resident subset



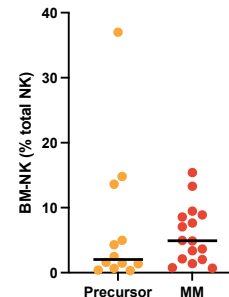
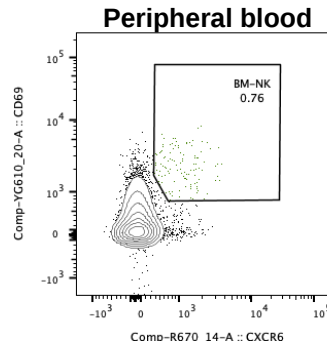
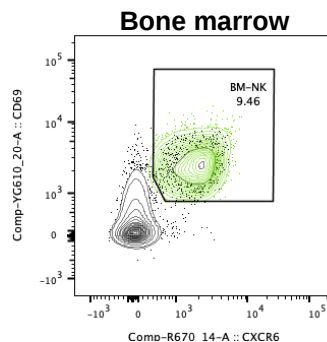
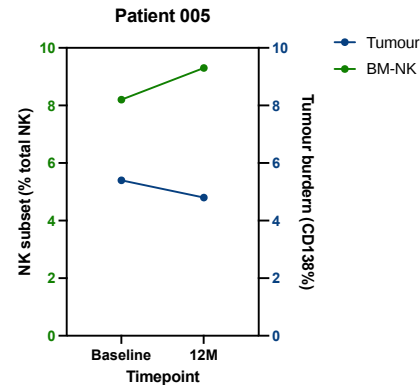
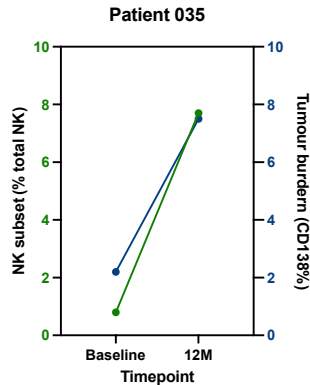
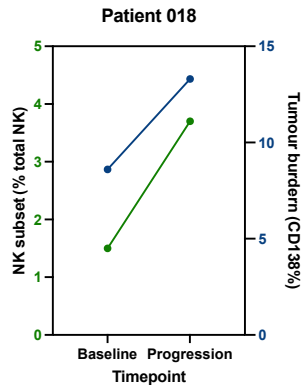
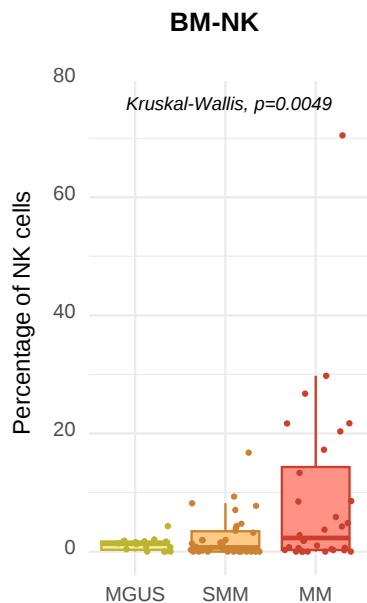
Cell Killing



Leukocyte chemotaxis



BM-NK increase with tumour progression



Summary

- Higher abundance of **CD56^{bright} NK** cells along progression
- NK cell **skewing is dynamic** and follows tumour burden fluctuations
- scRNAseq identifies a **BM-NK cell** subset
- NK skewing towards inflammatory state in the BM

Single-cell profiling of human bone marrow reveals multiple myeloma progression is accompanied by an increase in CD56^{bright} bone marrow resident NK cells

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Patients and their families



UK
Myeloma
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Travel award