

## What we knew

*Burkholderia pseudomallei*, a gram-negative pathogen, secretes Cif (CHBP) as an effector upon infection and causes Ubiquitin deamidation at Glutamine Q40 to Glutamate E40. Ub deamidation (dUb) results in dysfunction of ubiquitin pathway that is manifested in the form of cell cycle arrest, formation of actin stress fibre etc.

## What we asked

- What changes deamidation bring to ubiquitin?
- How a small change could lead to dysfunctioning of ubiquitination pathway?

## How did we study

**Biophysical Techniques.** We employed NMR Spectroscopy, Crystal structures, Fluorescence anisotropy, Mass spectrometry to study the structure and protein-protein interactions

**Computational Biology.** We performed all-atom MD Simulation and Targeted MD Simulation to analyse the trajectory of protein complexes

**Biochemical Assays.** We investigated the loss of function upon deamidation by ubiquitination assays and kinetic studies

## We thank

- NMR Facility, NCBS
- Mass Spec Facility, NCBS
- Central Computing Facility, NCBS
- Ranabir Das lab members for discussions

## What we found

