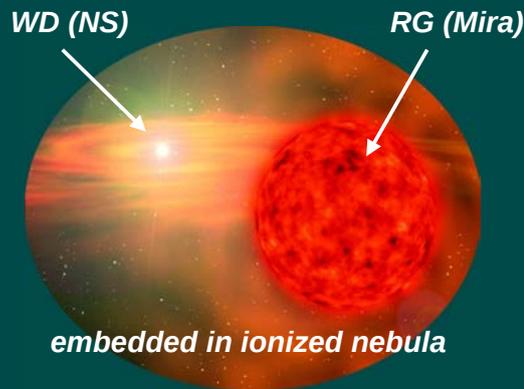


Research field: variable stars, especially the long period eclipsing and interacting binary systems.

Ongoing project: “Properties of the symbiotic stars of different populations of the Milky Way and its satellite galaxies”

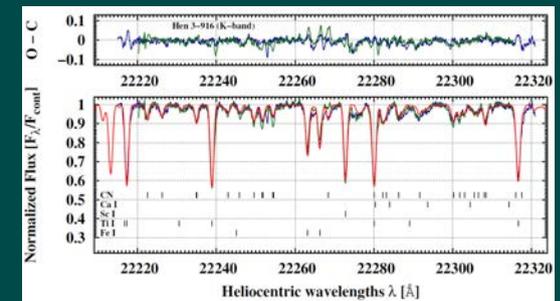
Symbiotic systems



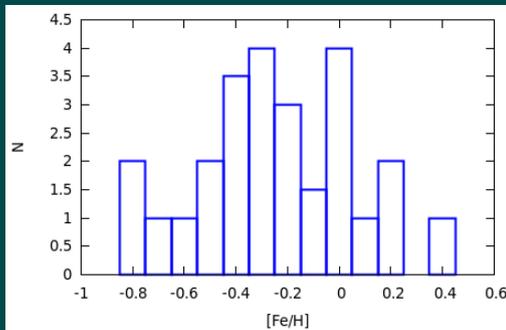
Chemical abundance analysis of the symbiotic red giants

- Gemini South (PHOENIX spectrograph) – near-IR spectra ($R \sim 50000$) at H , and K -bands ($\lambda \sim 1.54, 1.56, 2.23, \text{ and } 2.36 \mu\text{m}$).
- Method: spectrum synthesis analysis employing standard local thermal equilibrium (LTE) based on 1D, hydrostatic model atmosphere (MARCS, PHOENIX).
- Photospheric abundances of CNO and elements around the iron peak: Fe, Ti, Ni, Sc.

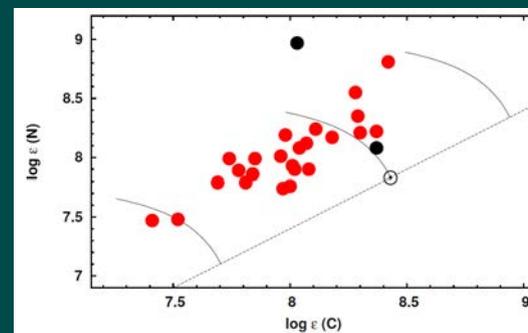
K-band region ($\lambda \sim 2.23 \mu\text{m}$)



[Fe/H] – proxy for metallicity

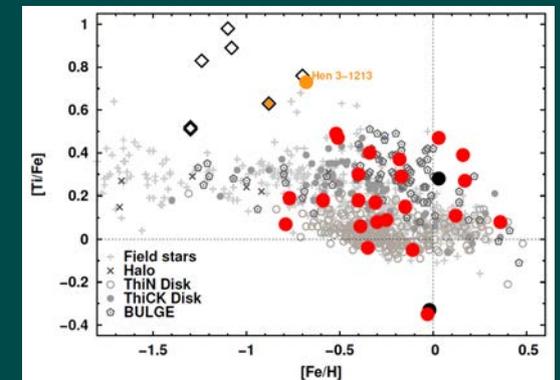


Increase in ^{14}N isotope – all symbiotic giants are after first dredge-up



$^{12}\text{C}/^{13}\text{C}$: 5 – 23, median: ~ 10

[Ti/Fe]–[Fe/H] - increasing trend with decreasing metallicity



Spectra (around $H\alpha$; $R \sim 6500$). Traces of enhancement with ZrO were found in approximately half of our sample (37 objects).