What did we learn?

What should be done?

- Look for signatures
+ Suggest signatures

+ more observations and correlations
+ total yields from consistent explosion models
+ branching ratios (s-process) — experiments

$$\frac{Sr}{H} = \left(\frac{Sr}{Ba}\right)_H \left(\frac{Ba}{H}\right)_H + \left(\frac{Sr}{Fe}\right)_L f_{Fe}^{L} \left(\frac{Fe}{H}\right)$$

- Ne neutron-sources
- Observational sensitivity-studies (validations LTE-NLTE 3D)
- next generation Galactic chem. Evolution
- precision cross sections

LEPP

Contributions

(i)	(ii)	(iii)
s-type processes including i-process (^{13}C(α,n)^{16}O) n-process rs-process	vp-process	r-type or weak r or ν-Wind from charged particle freeze-out QSE, NSE

Clear Signatures identified ?

Meteorites: Wasserburg, Busso, Gallino

multiple sources of the r-process (weak and main?)

Observations: CS vs HD (Sneden - Honda, main - weak)

low end of CS shows variations

more recently r-I, r-II

Sources: NS-mergers, core collapse ν-wind, low mass SNe II and ECSN,

NS-mergers → main, but low [Fe/H]

core collapse ν-wind → ???? main, but weak

low [Fe/H] massive stars (weak ν's)

- Qian et al. but peaks? (both n-rich enough?)
- fast rotators with magn. fields?

Experiments: Masses, half lifes, reaction cross sections