Conclusions

- Astroinformatics is interesting (~100 people
  - 64 registered , 54 attended
  - 16 invited, 16 contributed, 22 posters

- Astroinformatics is important for all

  Examples where AI is used follow:

Conclusions

- Big data challenges
- Astroinformatics needs Virtual observatory
  - VO is indispensable to all big project
  - VO is used by astronomers for 15 years
    - But they do not know it :-(
  - VO allows new science (at lest more efficient)
- LSST products challenge (10mil alerts/night)
- Query coordinates in PB – new DB structure

Conclusions

- Classification of
  - Everything in CCD frames
  - Galaxies (morphologies)
  - Light curves (billions from gaia)
  - Spectra (gaia)
  - Transients
  - Evolution of star-forming sites

Conclusions

- Searching of different kinds of objects
  - Big surveys, combination of spectral ranges
  - Blazars
  - Young stellar objects
  - UV Cet stars
  - Be stars
  - Lensed quasars
  - Meteors

Conclusions

- Methods for searching unknown
  - Finding structures and outliers
  - Dimensionality reduction (tSNE)
  - Domain adaptation (knowledge transfer)

Conclusions

- New and propper statistical aproaches - Models
  - Models of large structure (nonlinear)
  - Uncertainities (PDF)

Conclusions

- Philosophical problems

  - Information universe (entropy, links)
  - Knowledge discovery in big data
  - Visualization of bilions of multi-D data
  - Deep learning

  - Education of Data Scientist !!!!!!!

Thanks

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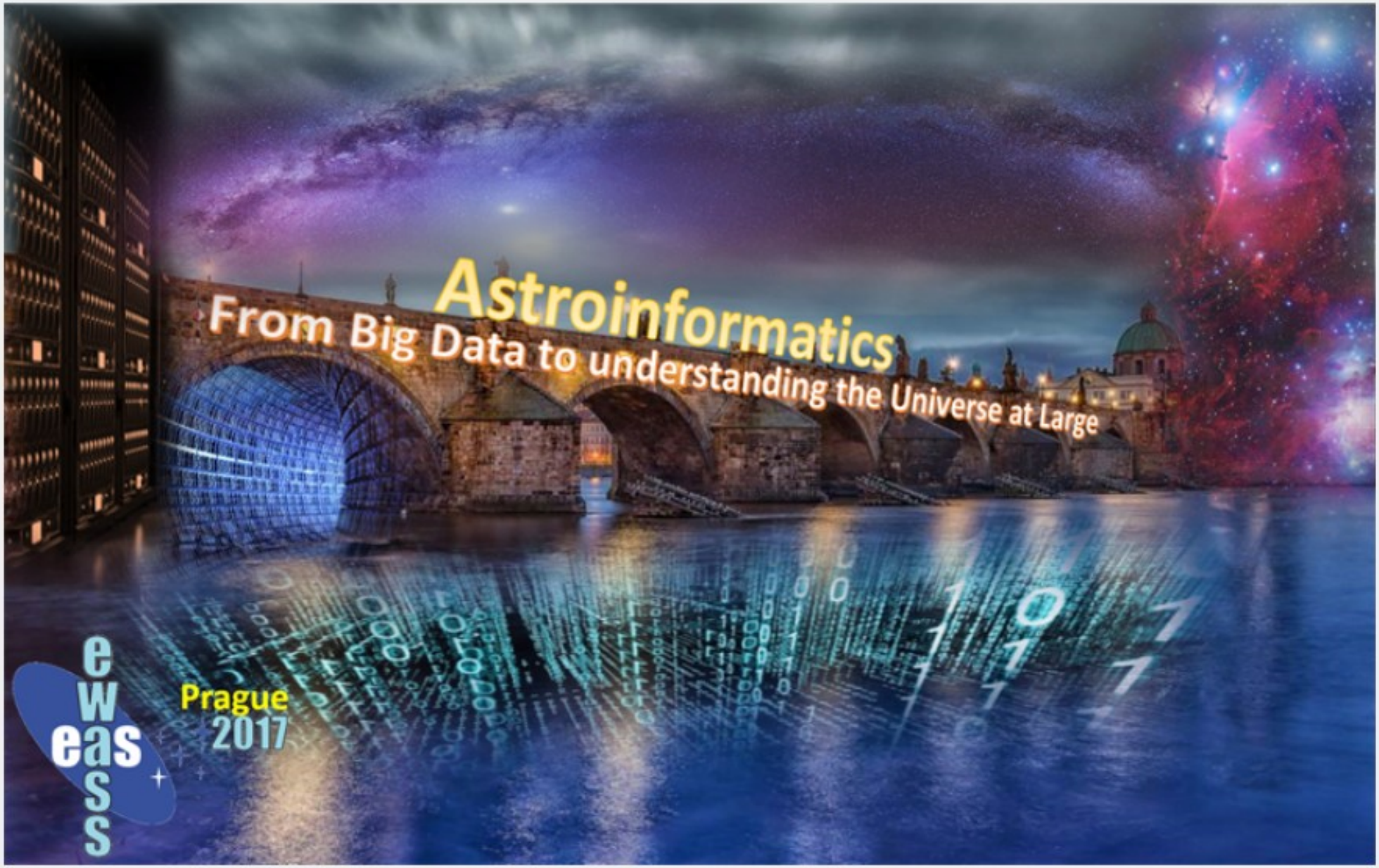

Artwork by Massimo Brescia (THANKS !)