

# Incontro studenti/aziende

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## TODAY

- IPLAB Intro
- STMicroelectronics ([www.st.com](http://www.st.com))
  - AST Imaging Catania Lab
  - CPT Group
- TechlabWorks ([www.techlabworks.com](http://www.techlabworks.com))
- CoRFiLaC([www.corfilac.it](http://www.corfilac.it))
- Studio di Informatica Forense ([www.periziainformatica.it](http://www.periziainformatica.it))
- TVBlob ([www.tvblob.com/](http://www.tvblob.com/))
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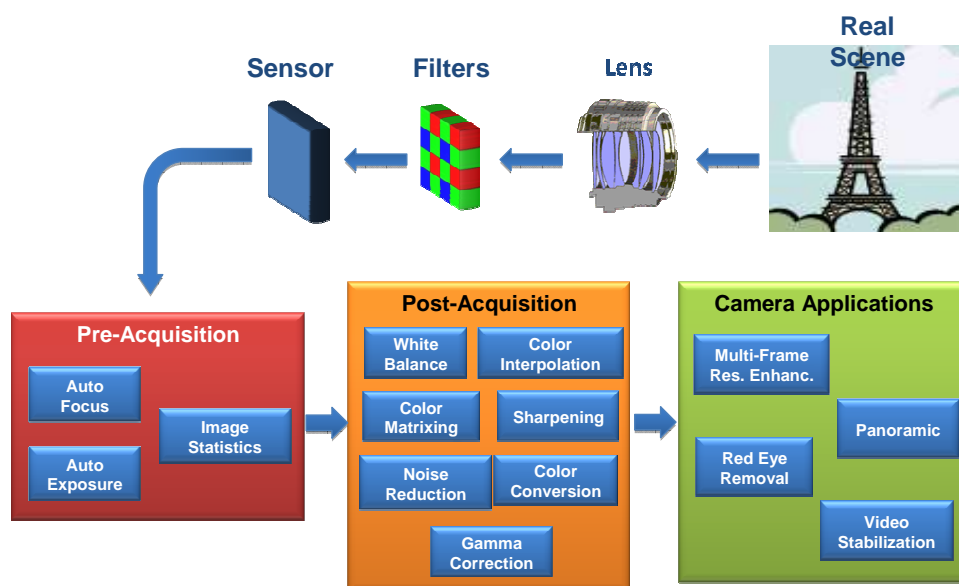


# IPLAB: Main Competences

- Image Analysis, Coding and Processing
- Medical Imaging
- Computer Graphics
  - Non-Photorealistic Rendering (Artificial Mosaic)
- Image Forensics
- Archeomatica



## Typical Imaging Pipeline



Data coming from the sensor (in Bayer format) are first analyzed to collect useful statistics for parameters setting (pre-acquisition) and then properly processed in order to obtain, at the end of the process, a compressed RGB image of the acquired scene (post-acquisition and camera applications).

# Computer Graphics

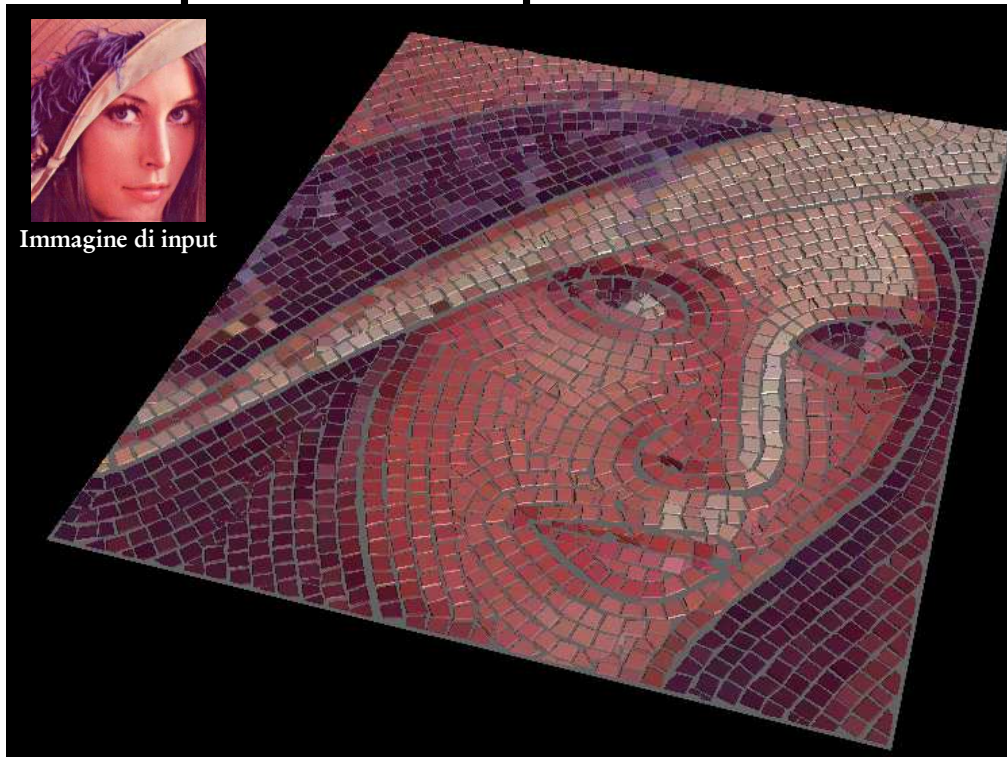


✓ Artificial Mosaic

✓ Virtual Theatre and Facial Animation

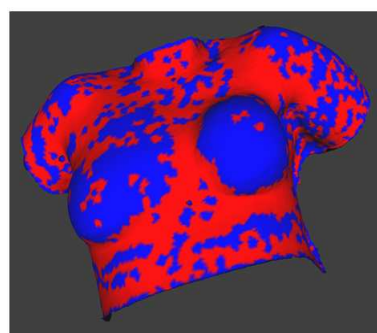
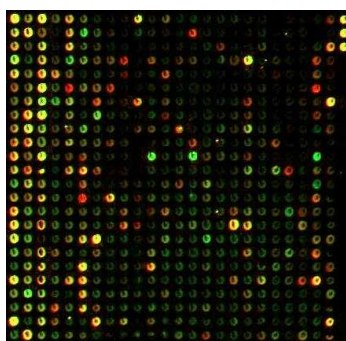


# Computer Graphics: 3D Mosaic

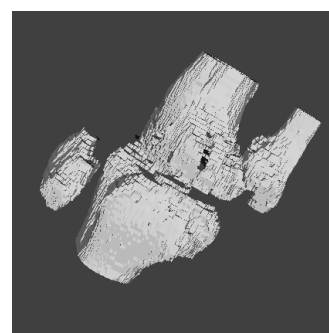


## Medical Imaging

- Microarray Image Analysis;
- Breast Shape Analysis;
- Cortical Bone Classification (CT data)
- Wireless Endocapsule Video



■ Concave  
■ Convex

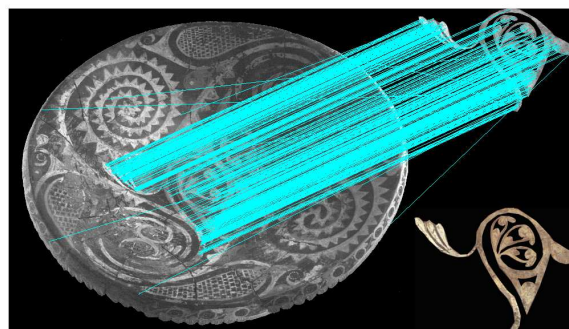
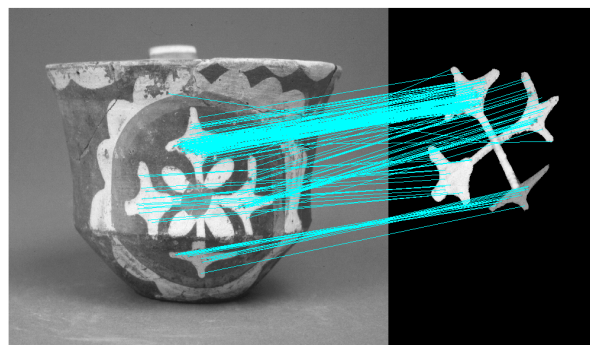
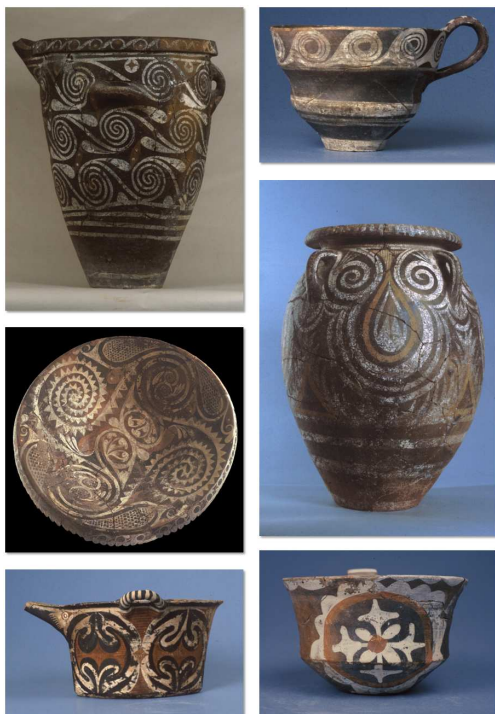


# Image Forensics @IPLab

- Support and technical advices to investigations, referring more precisely on multimedia contents analysis (Images, Videos, etc.).
- Applied and basic R&D in partnership with private and public institutions.
  - Interpol, Crime Against Children, Lione
  - IISFA (Italian Information System Forensics Association)
  - RIS (Reparto Investigativo Speciale) - Carabinieri Messina
  - Telefono Arcobaleno
  - ...



## Archeomatica



# Computer Vision e Multimedia

- iPhone app (Computer Vision)
- N900 FCAM
- Image Aesthetic



## Computer Forensics 1

- Sviluppo di Plugin ad uso forense in ambiente “open source” (e.g., ImageJ o GIMP)
- Sviluppo di Plugin ad uso forense in ambiente “Photoshop”
- Studio comparativo software di image/video forensics



# Computer Forensics 2

- Algoritmi e tecniche per l'individuazione delle manipolazioni di foto (e video) attraverso l'analisi di:
  - Anomalie di compressione
  - Anomalie del formato dati
- Near Duplicate Image Detection
- Clustering semantico di grossi quantitativi dati



## Emule Forensics

Dott. M.Ferrazzano

([michele.ferrazzano@unibo.it](mailto:michele.ferrazzano@unibo.it))

<http://emuleforensic.cirsfid.unibo.it/index.php>

- **Portabilità di emuleforensic in java**
- **Modulo per la gestione degli hash noti**
- **Link analysis**



# IPlab & NeoData

Analisi della fruizione via Internet di materiale Multimediale (es. Video) prodotta da broadcaster televisivi (es. RAI, Mediaset)

- Summarization (semi)automatica (audio, sottotitoli)
- Behaviour Learning
- Semantic Extraction (face, loghi)



## Main Contacts

Further Info

**Image Processing Lab**

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