

Free-Roaming Horse and Burro Fertility Control: Looking to the Future

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Where we are...

Practical Application Agents

- Porcine Zona Pellucida (PZP)
 - ZonaStat-H
 - PZP-22
- Gonadotrophin Releasing Hormone
 - GonaCon™
- Spay-Vac®

Identification Systems

- Equine Colors/Markings
- Freeze-branding
- Radio Frequency Implantable Devices (RFIDs)

Delivery Systems

- Hand-injection
- Remote opportunistic darting



What's next?...

Practical Application Agents

- Longer-acting (3-5 years)
- Cost-efficient
- Low/no injection site reactions?

Identification Systems

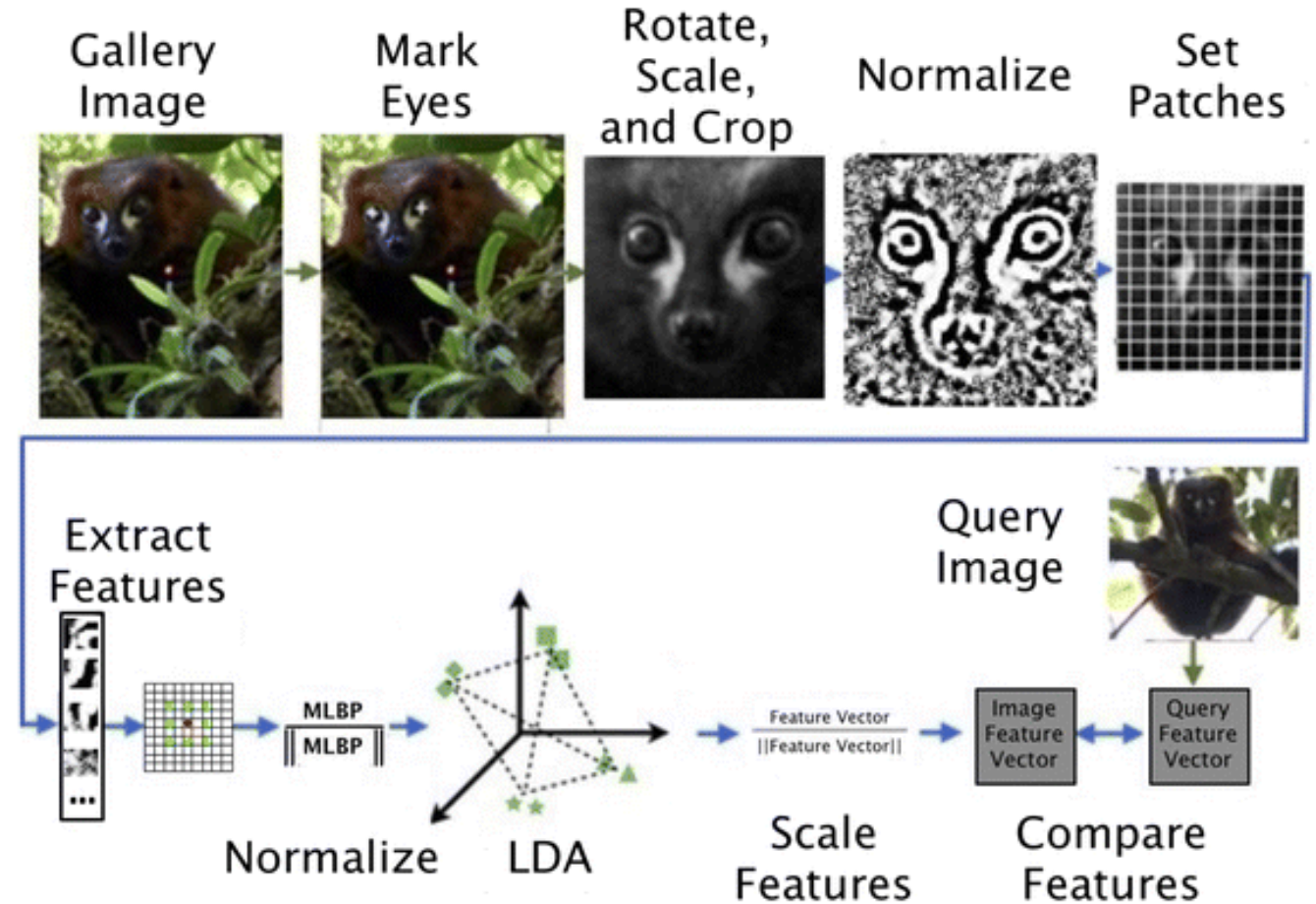
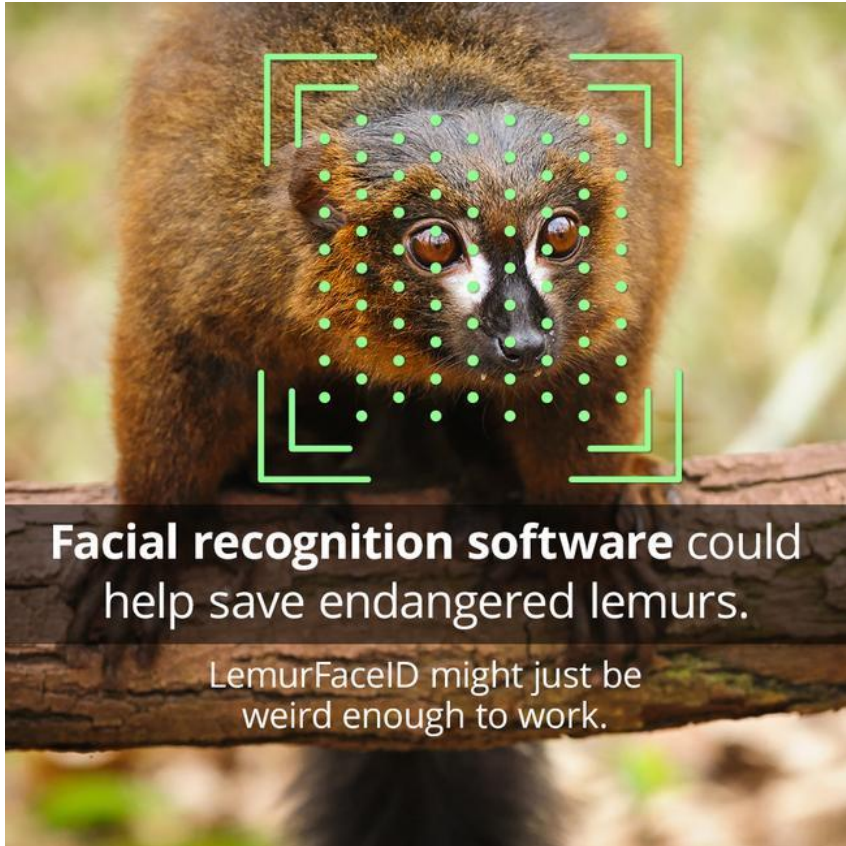
- Facial Recognition Technology
- Passive Integrated-responder Tags (P.I.T.)
- Radio Frequency Identification (RFID)

Delivery Systems

- Unmanned aerial vehicles
- Stationary remote controlled devices



Identification Systems



Delivery Systems



**Stationary
Radio-Controlled Devices**



Unmanned Aerial Vehicles

WHAT ELSE...

- **Increased survival/longevity**
- **Social/behavioral effects**
- **Logistical studies**
 - **Costs**
 - **Population %**
 - **Optimal frequency**
- **Replicable models**



WHAT ELSE...

- **Education and Engagement**
 - **Policymakers**
 - **Horse and burro managers**
 - **Private Cooperators**
 - **Public**
- **Managing Expectations**
 - **Is the magic bullet realistic?**
 - **Births following initial treatments**
 - **Injection site reactions**



Conclusions

- Free-Roaming Horse and Burro populations and conflicts are increasing
- High demand by policymakers and the public for effective, sustainable and cost-efficient population growth suppression methods
- Practical applications DO exist but we have work to do:
 - R&D longer-acting agents
 - Identification and Delivery Systems
 - Logistics/Costs
 - Education and Engagement

