





Simona Palermo

*Project Manager*

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# **PARCO TECNOLOGICO PADANO**

***Innovation cluster in the Food & Biotech sector***

**Lodi - Italy**



# Lodi innovation Cluster

Parco  
Tecnologico  
Padano

*Entrepreneurial research in ag-biotech*

**Parco Tecnologico Padano (PTP)** is the **engine of the Lodi Innovation Cluster**, a commercially-oriented **research network** in biotech & food tech that:

- ① deals with **regional needs**
- ② performs highly **effective research** to support regional development
- ③ **creates start-ups and spin-offs** by offering know-how, incubator facilities and services.





# The Innovation Cluster

**Parco  
Tecnologico  
Padano**

*Entrepreneurial research in ag-biotech*



UNIVERSITÀ  
DEGLI STUDI  
DI MILANO



**Parco  
Tecnológico  
Padano**

**CRA**  
CONSIGLIO PER LA RICERCA  
E LA SPERIMENTAZIONE  
IN AGRICOLTURA



ISTITUTO SPERIMENTALE ITALIANO  
"LAZZARO SPALLANZANI"



I.Z.S.L.E.R.





# Parco Tecnologico Padano

**Parco  
Tecnologico  
Padano**

*Entrepreneurial research in ag-biotech*

Cluster management organisation operating as a  
non profit foundation promoted by public bodies

## Founders



## Other members:

- Università degli Studi di Milano
- ASL Lodi
- ELPZoo (Fond. Cariplo)
- Istituto "Lazzaro Spallanzani"
- Associazione Pad. Studi Un.
- Associazione Italiana Allevatori
- Provincia di Milano
- CCIAA di Milano
- Comune di Milano





# Why in Lodi

Parco  
Tecnologico  
Padano

*Entrepreneurial research in ag-biotech*



Regione  
Lombardia



① **Europe's highest crop per acre**

The Po Valley: a millenary agricultural history

② **Europe's oldest universities**

A network of primary educational and scientific institutions

③ **A reputed food tradition and industry**

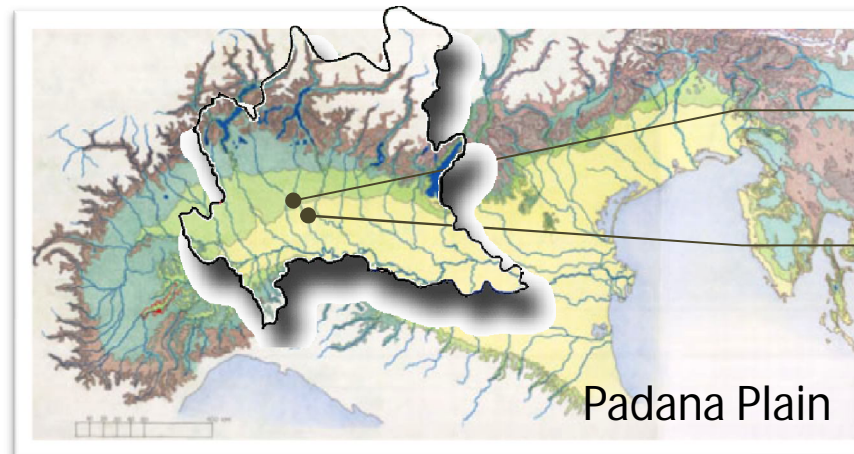
and one of the world's healthiest diets

④ **An infrastructures network**

airports, highways, railways

⑤ **A "long" to do list for competitiveness**

run or die local and worldwide environment



Milan

Lodi

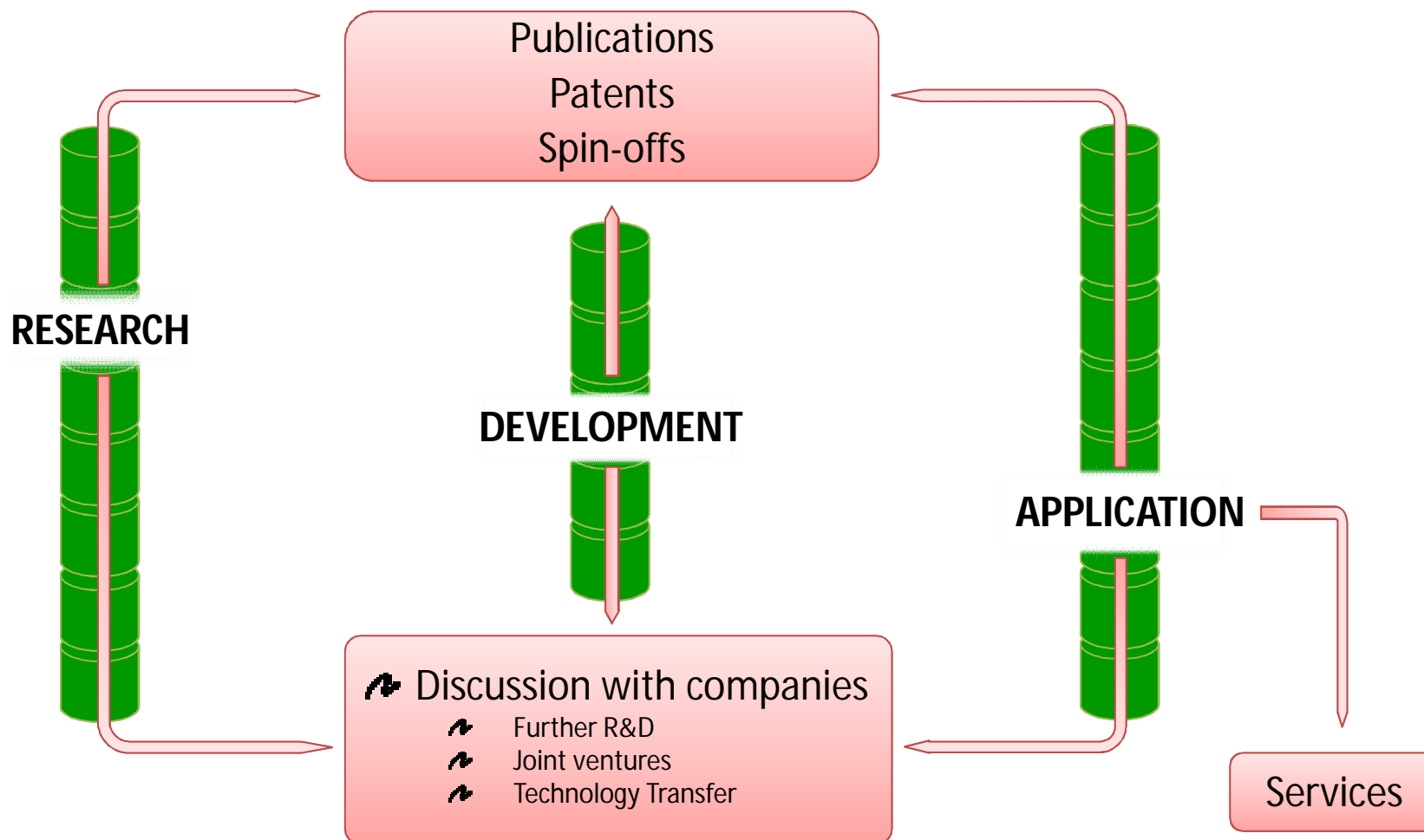


Padana Plain



# 3 pillars of PTP

*Entrepreneurial research in ag-biotech*





## RESEARCH

Parco  
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Padano

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### CeRSA

The Agro-food Research Center (CeRSA) runs the in-house research resources of PTP.

The 70 CeRSA researchers carries out innovative **research on genomics and genetic diversity** to discover traits for **quality and pathogen resistance** in crops and livestock and **diagnostic tools** for food safety and traceability.



**F. Salamini**  
chairman Scientific Committee



**J. Williams**  
Scientific Director

**Research for  
Food:**  
- security  
- safety  
- quality

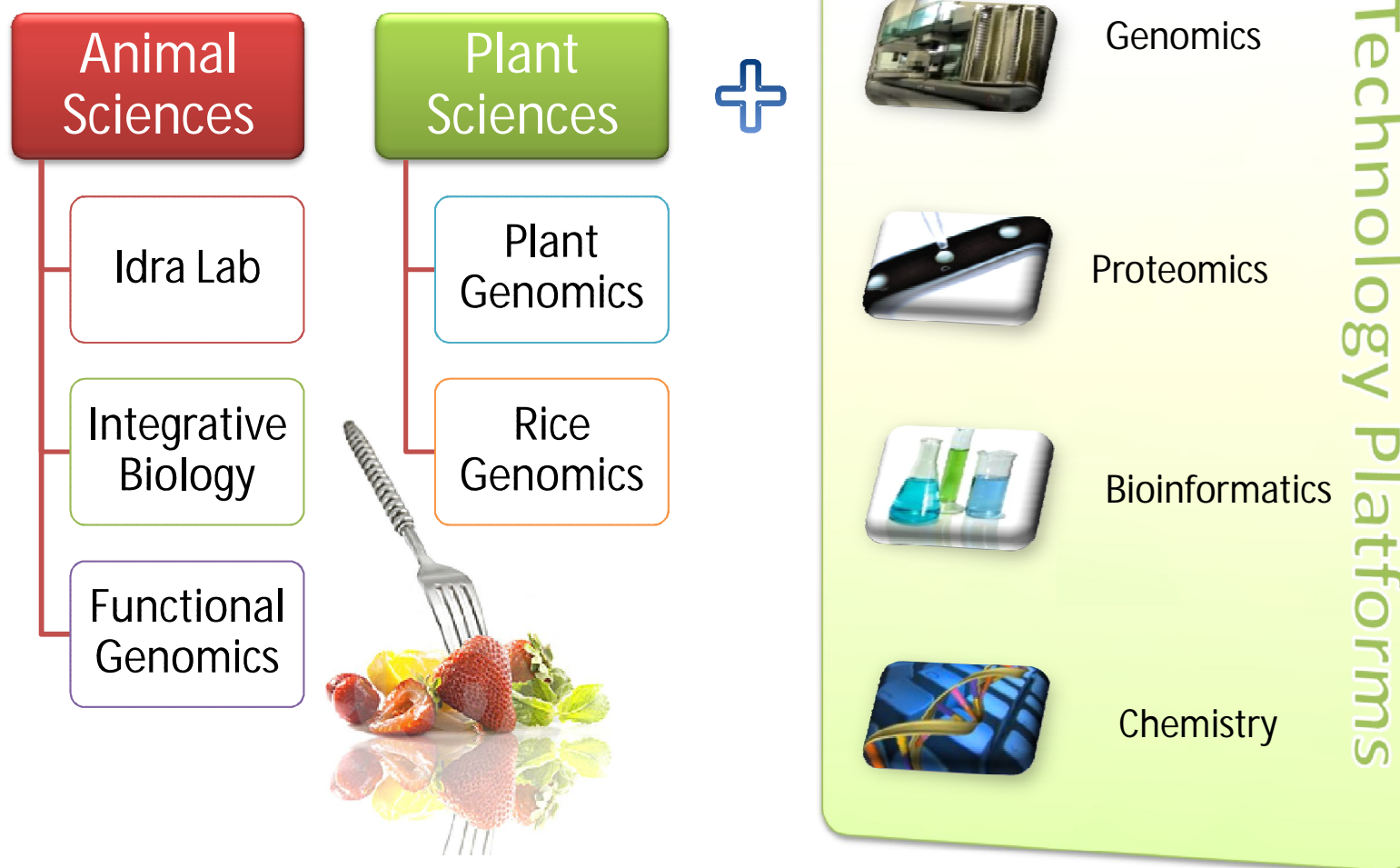




# RESEARCH

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Padano

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# RESEARCH

Parco  
Tecnologico  
Padano

Entrepreneurial research in ag-biotech



## Cattle

- ↔ Disease
- ↔ Production



## Sheep

- ↔ Disease
- ↔ Diversity



## Swine

- ↔ Meat quality
- ↔ Disease



## Poultry

- ↔ Disease



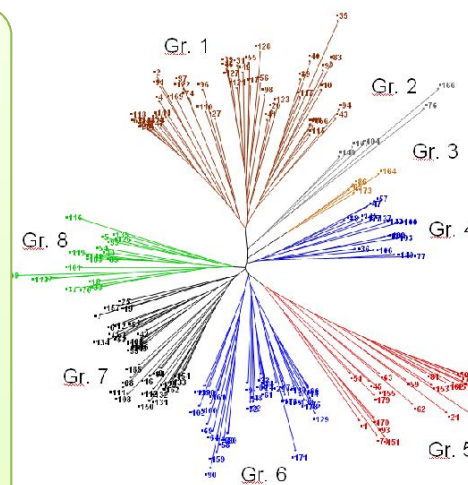
## Fish

- Diversity
- Parasites



## Honeybees

- Disease



## Bioinformatics

- ↔ Statistical methods
- ↔ Statistical analysis
- ↔ Population genetics studies
- ↔ Software and Database implementation

```
ACCATGGATTACATA010110110001101010  
GATTCCATTATAAGGA01100111000000100  
TGCCGGCAATAGGCA001110101000110101  
CAATAAGCATTCCAC001010101101011011
```



## Food safety and quality

- ↔ Traceability
- ↔ Pathogen detection
- ↔ Origin and authenticity



## Rice

- ↔ Diversity
- ↔ Disease resistance



## Peach

- ↔ Fruit quality /aroma
- ↔ Sequencing



## Grape

- ↔ Sequencing
- ↔ Pathogen resistance



## Barley

- ↔ Architecture
- ↔ Drought resistance



## RESEARCH

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### EMERGING FIELDS...



**Functional Foods  
and Nutraceuticals**

**Green Energy**

(biomasses, biofuels,  
etc.)



**Molecular pharming**

**Animal stem cells**





## RESEARCH

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### ...GENOME SEQUENCING

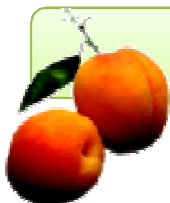
Grape

Velasco et al., 2007. PLoS ONE 2(12):e1326



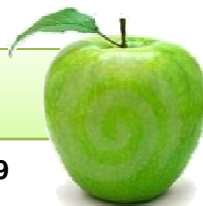
Peach

<http://www.drupomics.eu>



Apple

Velasco et al, 2010. Nat Genet. 42(10): 833-9



Wheat

ongoing



Bovine

Bovine Genome Sequencing and Analysis Consortium 2009  
Science. 324(5926):522-8.



Buffalo

ongoing



Swine

ongoing



Carnaroli Rice

Ongoing, PTP coordinator





## RESEARCH

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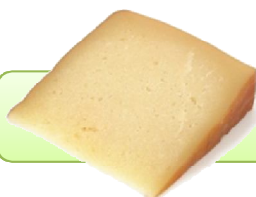
*Entrepreneurial research in ag-biotech*

### ...INDUSTRY-DRIVEN STUDIES



Corn resistance to Diabrotica and Fusarium

Management of animal health issues in swine breeding



Microbiological safety of cheeses and their valorization

Genomics of dairy cows for health, fertility and animal welfare





## RESEARCH

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**~ 40 R&D  
PROJECTS**



**~ 25M €  
FUNDINGS**



**fondazione  
cariplo**



## DEVELOPMENT

Parco  
Tecnologico  
Padano

Entrepreneurial research in ag-biotech

Active research projects  
with industrial  
companies

**Seminis**  
Vegetable Seeds



**EUGEN seed**



**Bi-track**

**bioleader**

**Raggio di Sole**  
MUTAZIONE ASSOCIATA



**Conserve Italia**

**Agrofutur**

**LAVAZZA**  
ITALY'S FAVOURITE COFFEE

**Peotec Seeds**

**indena**

**Birrificio  
Lodigiano**

**SOLANA**

**L'ORÉAL**





## DEVELOPMENT

Parco  
Tecnologico  
Padano

*Entrepreneurial research in ag-biotech*

**Alimenta**  
Incubatore d'impresa

Through its 2,400 sqm **Incubator Alimenta**, PTP promotes regional development through the **creation of start-ups and spin-offs**, by offering know-how, facilities and services.





## DEVELOPMENT

Parco  
Tecnologico  
Padano

Entrepreneurial research in ag-biotech

**Alimenta**  
Incubatore d'impresa

MILANO  
CREA  
IMPRESA  
**RETE  
INCUBATORI**  
www.reteincubatori.it

**Gruppo RiCiCla**

**FAsTEST**

**PHARM**  
PHARMACEUTICAL  
RESEARCH MANAGEMENT

**mybatec**

**ipagd  
lab**

**BiCT s.r.l.**

**PriGen**

**PHYTO  
remedial**



Block B  
First Floor

**Genessere**

**ISTA**  
Istituto Agrobiologico  
per la qualità  
delle colture mediterranee

**mim**  
LIFE YOU CAN SHARE

**QualITALia**

**Bi@track**

**t.o.p.**  
TRANSGENIC OPERATIVE PRODUCTS

Graduated Companies

**ELPAM**

**Agrifutur**

**PLANTECHNO**

**Molecular Stamping**

**IntCura**

**KRON MORELLI**  
fermenti di vita



## SERVICES

**Parco  
Tecnologico  
Padano**

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### Services for Research

- › SNP Genotyping
- › Tilling
- › Gene Expression
- › DNA/RNA Extraction
- › Biorepository
- › Diagnostic Services
- › Library Sequencing

### Services for Enterprises

- › Traceability
- › Characterization
- › Certification
- › Breeding
- › Pharma and Veterinary

**Training Services**

**Bioinformatic Services**

**Scientific Services**

**R&D**

**Equipped Spaces**

**Consulting Services**

**Analytical Services**





# International Network

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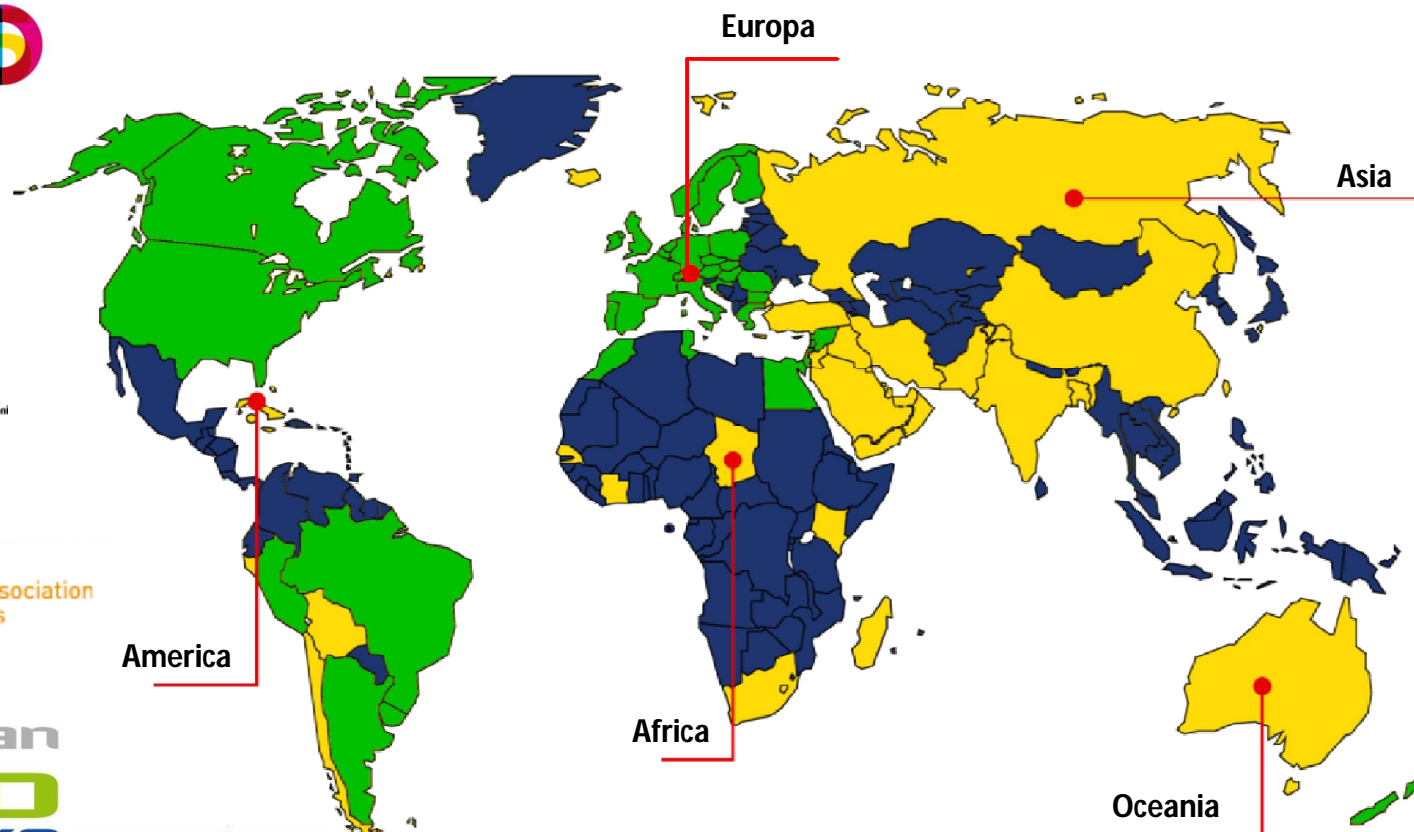
MILANO  
FEEDING THE PLANET  
ENERGY FOR LIFE



FEDERCHIMICA

ASSOBIOTEC

Associazione nazionale per lo sviluppo delle biotecnologie





# Bio&Food Park

Parco  
Tecnologico  
Padano

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Under development an area of  
**350,000 sqm** for a **BIO&FOOD Park**  
available to biotech and agro-food  
companies.





# CONTACTS

**Parco  
Tecnologico  
Padano**

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## Grant Office:

**Simona Palermo**, Project Manager

Email: [simona.palermo@tecnoparco.org](mailto:simona.palermo@tecnoparco.org)

Phone: +39 0371 4662211; +393351725157

**Fabrizio Trigila**, Project Developer

Email: [fabrizio.trigila@tecnoparco.org](mailto:fabrizio.trigila@tecnoparco.org)

Phone: +39 0371 4662211

