

Joint Online Seminar on AI & Smart Manufacturing

Neihu Industrial High School × Spain Partner Schools



活動目的 Purpose



- **International collaboration**
- **AI & Smart Manufacturing education**
- **Sharing best practices**

三校介紹 Partner Schools

- **Neihu Industrial High School (Taiwan)**
- **Politeknika Txorierrri (Spain)**
- **Tolosaldea LHII (Spain)**



校長介紹 Principals



林俊岳 校長
Principal Lin (Julian)

Principal Ana Anabel Menica:
Director of
Strategy&Innovation

Principal Olatz Olatz
Landa, The Executive
Director of Tolosaldea LHII

教師團隊 Teachers Overview



- **Taiwan: AI + Smart Manufacturing**
- **Spain: Automation / IoT / Cybersecurity / Mechatronics**

教師團隊 Teachers Overview (Taiwan)

謝孟霖老師 Meng-Lin Hsieh

1. 任教於控制科，畢業於台灣科技大學。
2. 曾獲全國技能競賽工業配線第四名，並具備工業配線乙級技術士證照。
3. 專長於PLC控制、機電整合與工業機器人應用。

1. Mr. Meng-Lin Hsieh is an instructor in the Department of Control Engineering.
2. He graduated from National Taiwan University of Science and Technology.
3. He achieved 4th place in the National Skills Competition (Industrial Wiring) and holds a Class B technician certificate.
4. His expertise includes PLC control, mechatronics integration, and industrial robotics.

牛暄中老師 Hsuan-Chung Niu

1. 任教於資訊科，畢業於台灣大學生醫電子與資訊學研究所。
2. 曾任職於Cypress Semiconductor擔任應用工程師。
3. 專長於機器學習與AI應用開發。

1. Mr. Hsuan-Chung Niu is an instructor in the Department of Computer Science.
2. He holds a degree from NTU in Biomedical Electronics and Bioinformatics.
3. He previously worked as an Application Engineer at Cypress Semiconductor.
4. His expertise lies in machine learning and AI applications.

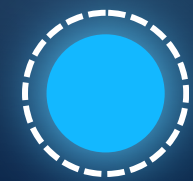
陳逸駿老師 Yi Chun Chen

1. 任教於電機科，並持有國立東華大學資訊工程碩士學位。他在產業界累積了18年豐富經驗，專注於自動化系統設計與智慧製造領域。
2. 教授的課程包括「跨領域虛擬自動化系統設計實作」。課程目標是讓11、12年級學生

1. Mr. Hsuan-Chung Niu is an instructor in the Department of Computer Science.
2. He holds a degree from NTU in Biomedical Electronics and Bioinformatics.
3. He previously worked as an Application Engineer at Cypress Semiconductor.
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教師團隊 Teachers Overview

(Politeknika Txorierri)

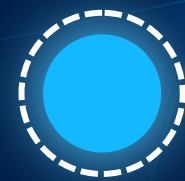


Xabier Ugarte Bustamante

1. 任教於電子與資訊科技系（自動化與機器人專業）。
2. 畢業於巴斯克大學（University of Basque Country, EHU），主修能源資源之礦業工程。
3. 曾任職於IDOM工程公司工業與能源部門工程師2年，並擁有超過15年職業教育教學經驗。

其專長領域包含：

- PLC程式設計
- 電氣圖設計
- 工業機器人與協作機器人（Cobot）
- 機器視覺
- 模擬與監控系統



Mr. Xabier Ugarte Bustamante is a senior instructor in the Department of Electronics and IT, specializing in Automation and Robotics at Politeknika Txorierri.

He holds a degree in Mining Engineering with a specialization in Energy Resources from the University of the Basque Country (EHU).

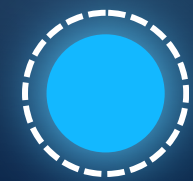
He has:

- 2 years of industry experience at IDOM (engineering in energy & industry sector)
- Over 15 years of teaching experience in vocational education

His expertise includes:

- PLC programming
- Electrical design
- Robot and cobot programming
- Machine vision systems
- Simulation and monitoring systems

教師團隊 Teachers Overview (Politeknika Txorierri)



Jokin Goioaga

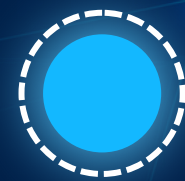
1. 任教於電子與資訊科技系，專長於物聯網 (IoT) 與工業資安領域。
2. 畢業於巴斯克大學 (University of the Basque Country, EHU)，為電信工程師。

具備：

- ZIV公司硬體開發工程師2年經驗
- 超過25年職業教育教學經驗

專長領域包含：

- 物聯網系統開發
- 工業資安 (Cybersecurity)
- 網路通訊與架構
- 程式設計 (C/C++、Python)



Mr. Jokin Goioaga is a senior instructor in the Department of Electronics and IT at Politeknika Txorierri, specializing in IoT and industrial cybersecurity.

He holds a degree in Telecommunications Engineering from the University of the Basque Country (EHU).

He has:

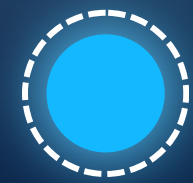
- 2 years of experience in hardware development at ZIV
- Over 25 years of teaching experience in vocational education

His expertise includes:

- IoT systems development
- Industrial cybersecurity
- Networking and communications
- Software programming (C/C++, Python)

教師團隊 Teachers Overview

(Tolosaldea LHII)



Ibai Goñi Irazustabarrena

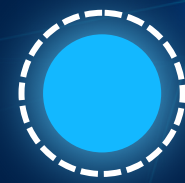
Ibai Goñi Irazustabarrena老師任教於電機與電子相關領域。畢業於蒙德拉貢大學自動化與工業電子工程，並取得巴斯克大學專案管理碩士。

具備：

- FAGOR集團與GESTAMP汽車設備產業超過15年軟體與系統開發經驗
- 6年職業教育教學經驗

專長於：

- PLC控制
- 機器人程式設計
- 工業系統模擬與監控
- 機器視覺



Mr. Ibai Goñi Irazustabarrena is an instructor in Electrical and Electronics.

He holds a degree in Automation and Industrial Electronics Engineering from Mondragon University and a Master's in Project Management from the University of the Basque Country.

He has:

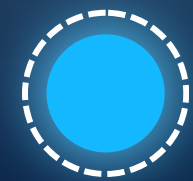
- Over 15 years of experience in software development in the steel and automotive industries (FAGOR, GESTAMP)
- 6 years of teaching experience in vocational education

His expertise includes:

- PLC programming
- Robotics programming
- Simulation and monitoring systems
- Machine vision

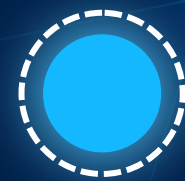
教師團隊 Teachers Overview

(Tolosaldea LHII)



Mikel Aretxaga Zubelzu

1. 國際專案協調員，同時任教於資訊科。
2. 畢業於巴斯克大學資訊工程，並取得教師培育碩士學位。
具備5年教學經驗，專長於：
 - 網路架構
 - 基礎程式設計
 - 國際合作課程推動



Mr. Mikel Aretxaga Zubelzu is an International Projects Coordinator and Computer Science instructor.

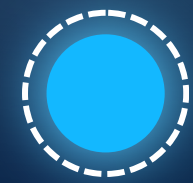
He holds a degree in Computer Science Engineering and a Master's in Teacher Training from the University of the Basque Country.

He has 5 years of teaching experience and specializes in:

- Local networks
- Basic programming
- International education projects

教師團隊 Teachers Overview

(Tolosaldea LHII)



Illart Alkorta

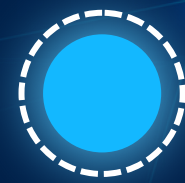
1. 任教於機電整合科。
2. 畢業於蒙德拉貢大學機械工程，並於英國Salford大學取得聲學碩士。

具備：

- 鋼鐵、風能與動力傳輸產業15年以上經驗
- 蒙德拉貢大學自動化講師與流體力學研究經驗
- 3年職業教育教學經驗

專長於：

- 機電整合系統
- PLC與機器人控制
- 數位孿生 (Digital Twin)
- 機器視覺



Mr. Illart Alkorta is an instructor in the Department of Mechatronics.

He holds a Mechanical Engineering degree from Mondragon University and an MSc in Acoustics from the University of Salford (Manchester).

He has:

- Over 15 years of industry experience (steel, wind energy, power transmission)
- Experience as a lecturer and researcher in automation and fluid mechanics
- 3 years of teaching in vocational education

His expertise includes:

- Mechatronic systems
- PLC and robotics
- Digital Twin simulation
- Machine vision

Practical Applications of Machine Learning

- **Python**
- **Neural Networks**
- **AIdea platform**



AI Teaching Approach

- **Problem-based learning**
- **Real datasets**
- **Competition-based evaluation**



Smart Manufacturing

- **PLC**
- **Robotics**
- **Mechatronics**



Technologies

- **Omron / Mitsubishi**
- **KUKA / FANUC / HIWIN**
- **Digital Twin**



Spain – Automation

- **PLC + Robotics**
- **Machine vision**
- **Industrial projects**



Spain – IoT & Cybersecurity

- **IoT systems**
- **Networking**
- **Cybersecurity**



Spain – Mechatronics

- **Digital Twin**
- **Simulation**
- **3D Design**



Integration

- **Digital Twin**
- **Simulation**
- **3D Design**





Integration



Teaching Method Comparison

- **Taiwan:**
Structured + AI-driven
- **Spain:**
Project-based + Industry-driven



Future Collaboration

- **Joint courses**
- **Student exchange**
- **International projects**



Discussion



Q & A

Full capability chain:



內湖高工
AI+智慧製造

Politeknika Txorierri
自動化+機器人+IoT+資安

Tolosaldea LHII
機電整合+數位孿生+工業專案實作

Neihu
→ AI & Smart Manufacturing

Txorierri
→ Automation, Robotics,
IoT & Cybersecurity

Tolosaldea
→ Mechatronics, Digital Twin &
Industrial Projects

The background is a vibrant blue digital landscape. It features a central perspective view of a glowing tunnel or data stream that converges towards a bright light source in the distance. The tunnel is formed by numerous thin, parallel lines that create a sense of depth and movement. On either side of the tunnel, there are faint, grid-like structures that resemble architectural wireframes or data matrices. The overall aesthetic is clean, modern, and high-tech, with a strong emphasis on light and perspective.

Thank You