



Epitaly

Dr. STEFANO LEONE

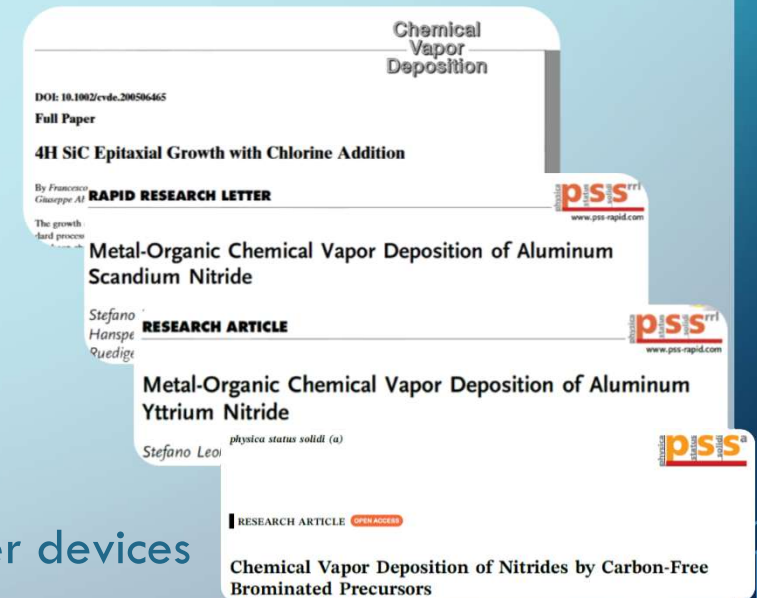
PROFESSIONAL INTRODUCTION



- Expert in semiconductor epitaxy with 20+ years of experience
- MS in Industrial Chemistry (Univ. Catania, Italy)
- PhD in Semiconductor Physics (Linköping Univ., Sweden)
- PostDoc in fluid-dynamic simulation (AIST Tsukuba, Japan)
- 12 years experience in semiconductor and equipment manufacturers (Europe & US)
- Senior scientist at research institutions (Fraunhofer IAF, Germany)

AREAS OF EXPERTISE

- Epitaxial growth of semiconductors by (MO)CVD and HTCVD
- Materials:
 - >10 years of expertise in Silicon Carbide
 - >10 years of expertise in Group III – Nitrides
 - Competence in As/P and Ga₂O₃
- Technologies:
 - Epitaxial growth for vertical and lateral power devices
 - Epitaxial growth for Optoelectronic devices (LED and photodetectors)
 - Epitaxial growth for ferroelectric materials and non-volatile memories



KEY AND PIONEERING ACHIEVEMENTS

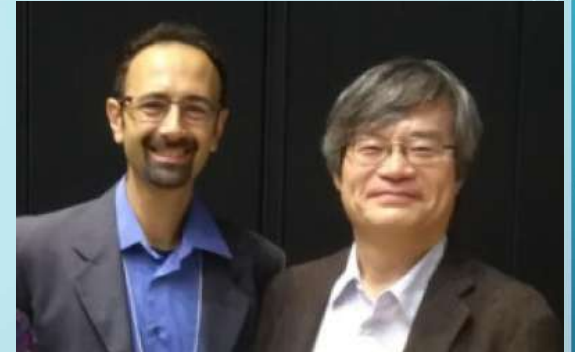
- First to demonstrate high-speed large-area epitaxial growth of SiC using CVD and HTCVD by Chloride-based CVD
- First worldwide to propose and demonstrate MOCVD growth of new ferroelectric materials: AlScN and AlYN
- Hold 2 patents & 3 patent applications for innovation in the epitaxy of Nitrides
- Involved in over 10 international projects with scientific leadership and fundraising roles
- Group Leader at Fraunhofer IAF: strategic development and expansion of epitaxy capabilities



WHAT I CAN OFFER

Research Institutes :

- Advanced support for developing complex epitaxial processes
- MOCVD: Training, hardware-/process-development & troubleshooting
- Facilitation of academia–industry collaborations.



With the 2014 Nobel Prize for
Physics Prof. Hiroshi Amano

WHAT I CAN OFFER


Industry:

- Process optimization, yield improvement, and quality control in epitaxy production
- Support in industrial scale-up and material/device reliability evaluation
- Technical training for new engineers and operators
- Strategic consulting on emerging materials and technology transitions



COLLABORATION MODEL & APPROACH

- Flexible consulting packages: on-site, remote, or hybrid
- Medium-term collaborations (6–12 months) or project-based
- Possibility of mentoring and technical supervision for junior researchers or startups



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AlScN – Seminar Package

1. Hardware for MOCVD equipment
2. MOCVD process for AlScN
3. Optimized Growth conditions and HW settings
4. Characterization methods
5. AlYN
6. Ferroelectricity & New transition metal nitrides
7. HEMT design and RF performance

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