

COST Action no.MP1308

2014|2018

Towards oxide-based electronics TO-BE

Objectives

- **Organization:** To network scientists working on transition metal oxides (a) among themselves; (b) to the mainstream of solid-state technologies; (c) to private companies and (d) to Public Society.
- **Science:** To foster and coordinate a research aimed at advancing our present understanding about the way the multiple lattice and electronic degrees of freedom and their mutual interactions determine the physical properties of transition metal oxides.
- **Technology**
 - To foster the development of a technology for the growth of in-situ-quality-controlled, large-area epitaxial oxide films and heterostructures on different substrates including Si.
 - To single out the most promising applications of TMOs to nanoelectronics, microactuation/microsensing and energy conversion and to coordinate fabrication and testing of devices performed at a prototype level.

Working Groups

- **WG0 Management (MA).** *Leader: F. Miletto Granozio, Action Chair, CNR-SPIN, IT.*
Four Tasks: 1) internal networking (Events); 2) external communication (Dissemination); 3) management of ESR (STSMs, Schools); 4) Oxide Technology Roadmap
- **WG1 Fundamental Understanding (FU),** *Leader: Jeroen Van Den Brink, IFW Dresden, DE.*
- **WG2 Growth Control (GC),** *Leader: Gertjan Koster, Mesa+/Univ. Twente, NL.*
- **WG3 Towards Applications (TA),** *Leader: Nini Pryds, Danish Technical University, DK.*

Future Plans and Challenges

- TO-BE 2014 Fall meeting
- Full operation of the Action Web Site
- Startup of the STSMs
- Organization of the Spring WG Meetings
- Organization of the first Summer School
- Startup of Dissemination Activity
- Joining more Private Partners to the team
- TO-BE participation to relevant EU Events in the field
- Startup of the Oxide Technology Roadmap preparation

Materials,
Physics &
Nanosciences
(MPNS)



Participating countries: 25

AT, BE, CH, DE, DK, EL, ES, FI, FR, HR, IE, IL, IT, LT, LU, LV, NL, NO, PL, PT, RO, RS, SE, TR, UK

Internat. Collaboration:

Contact details

Chair of the Action

Fabio Miletto Granozio
fabio.miletto@spin.cnr.it

Domain Committee Rapporteur

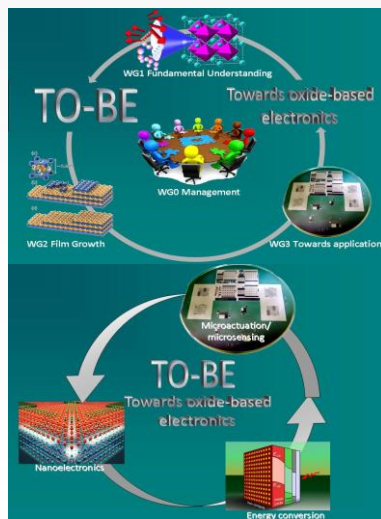
Didier Theron
didier.theron@IEMN.univ-lille1.fr

Science Officer (COST Office)

Caroline Whelan
Caroline.Whelan@cost.eu

Action Website

<http://to-be.spin.cnr.it/>



Picture above: the four WGs of the Action.

Picture below: the three main classes of envisaged applications



COST is supported by the EU RTD Framework Programme



ESF provides the COST Office through a European Commission contract