SILFS LOGIC PRIZE 2018 – SUMMARY REPORT

The examining board for the SILFS LOGIC PRIZE 2018 (Giovanna CORSI, Università di Bologna; Silvio GHILARDI, Università di Milano; Roberto GIUNTINI, Università di Cagliari; Hykel HOSNI, Università di Milano; Pierluigi MINARI, Università di Firenze) has taken office on February 15, 2018. The final online meeting was held on March 29, 2018.

The examining board received 5 papers, whose authors are listed below:

- Stefano BONZIO
- Antonino DRAGO
- Rosanna FESTA
- Andrea IACONA
- Claudia MUREȘAN

After careful evaluation, the SILFS LOGIC PRIZE 2018 was awarded to **Dr. STEFANIO BONZIO**

for his paper *Duality for Płonka sums*.

> This paper presents a general topological duality for varieties of algebras that are representable as Plonka sums over direct systems of families of dualisable algebras. Given a regular variety R(V), where V is strongly irregular and made of dualisable algebras, this duality piggybacks in a natural way on the existing duality for the base variety V. An example is given by a duality for the variety of involutive bisemilattices (regularisations of Boolean algebras). Involutive bisemilattices are the algebraic counterpart of Paraconsistent Weak Kleene Logic, a 3-valued logic that can be motivated both as a logic of computer programming errors and as a logic of reverse variable inclusion (i.e. as a logic of "linguistically ampliative", or dually analytic, inferences). The paper is correct and contains very interesting results; it lays the foundations of a sound theory. Although it is mainly of an algebraic character, it Is related to logic as shown by the above remarks. The paper is thereby assessed as VERY GOOD.

March 28, 2018

The examining board

Giovanna Corsi
Silvio Ghilardi
Roberto Giuntini
Hykel Hosni
Pierluigi Minari