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ABSTRACTS
BOOK

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**The Stenian to Tonian passive margin Lajeado Group
and Apiaí gabbro of Southeastern Brazil:
Paranapanema continent break-up and Brasiliano ocean formation**

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The Lajeado Group in the Ribeira Belt, Southeastern Brazil, corresponds to an open-sea carbonate platform, and comprises seven overlapping siliciclastic and carbonatic formations, intruded in its upper portion by the Apiaí gabbro. These rocks have a Neoproterozoic tectono-metamorphic overprint related to arc magmatism and the Brasiliano collisional orogeny. Geochronological constraints are given by new U–Pb SHRIMP and LA-ICP-MS data for Lajeado Group detrital zircons and for magmatic zircons from the Apiaí gabbro. The analyses of detrital zircon grains from the Lajeado Group show the importance of Palaeoproterozoic source areas (2200–1800 Ma) with some Archean and Mesoproterozoic (1500–1200 Ma) contributions. Ten zircons from a sample of the Apiaí gabbro give indistinguishable concordant ages, with a weighted mean $^{206}\text{Pb}/^{238}\text{U}$ age of 877 ± 8 Ma, interpreted as the time of magmatic emplacement. Two sites at edges of a single grain showed younger ages (about 600 Ma) with lower Th/U, and are interpreted as indicating a metamorphic and /or hydrothermal event. The youngest 1400–1200 Ma detrital zircons in the Lajeado Group constrain its maximum age of deposition, whereas the 877 ± 8 Ma age for magmatic zircons in the Apiaí gabbro give a minimum age. The Apiaí gabbro has a similar age to other basic intrusive rocks in the Lajeado and Itaiacoca groups and represents tholeiitic MORB-like magmatism that we relate to the initial break-up of the Paranapanema continent and the formation of the Brasiliano oceans. Although most of the Precambrian carbonate platforms in the West Gondwana show Cryogenian to Ediacaran ages, the results presented here stress that the Lajeado Group in the southern Ribeira belt must have been deposited earlier, in the Tonian–Stenian. The findings presented here give new constraints and insight into the evolution of the Brasiliano ocean basins of West Gondwana between the break-up of Palaeoproterozoic continental crust and their closure at the end of the Neoproterozoic.