Born in Philadelphia, USA, Ronne Arnold studied dance at the Philadelphia Dance Academy, where he attended classes in classical, modern, primitive, and Hindu dancing. He also attended the Philadelphia Musical Academy, from which he gained a B.A. in music, majoring in dance. Arnold first came to Australia for Garnet Carroll in 1960 to appear in the musical West Side Story. He appeared in musicals and dance productions throughout the 1960s and 1970s and into the 1980s and has taught jazz dance for many schools and organizations since 1961.

In 1967 Arnold founded the Australian Contemporary Dance Company, later the Contemporary Dance Company of Australia, which he directed until 1972. He was also dance co-ordinator for Bangarra Dance Theatre's tour to Indonesia in 1991. From 1986 until 2003 Arnold taught in various capacities at National Aboriginal and Islander Skills Development Association (NAISDA), including academic course director.