



UNIVERSITÀ DEGLI STUDI DELL'AQUILA

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Curriculum scientifico

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Alfonso Paoletti è professore Associato di Tecnologie e Sistemi di Lavorazione presso il Dipartimento di Ingegneria Industriale e dell'Informazione e di Economia dell'Università dell'Aquila. La sua attività scientifica si svolge prevalentemente nel campo delle tecnologie di lavorazione dei materiali, sia con tecniche tradizionali che innovative, toccando aspetti di carattere meccanico, strutturale, di fabbricazione, lavorazione meccanica e controllo. Fra i primi temi sui quali ha condotto le sue ricerche, si possono citare quelli sulle metodologie di applicazione e caratterizzazione dei rivestimenti ceramici su superfici metalliche. In particolare, tale attività è stata indirizzata alla rilevazione dei difetti con prove non distruttive e alla valutazione di superfici lavorate con tecniche tradizionali ed innovative. Nel settore delle lavorazioni meccaniche ha svolto studi e ricerche sulla foratura, sulla rettifica, sulle lavorazioni con fascio laser e sui processi di giunzione. Le indagini sono state svolte con approccio teorico e sperimentale su materiali tradizionali e innovativi, impiegando sia apparecchiature standard che realizzate appositamente, per la misura dei parametri tecnologici durante il processo. La foratura è stata impiegata per la lavorazione di compositi a matrice plastica, sia termoindurente che termoplastica, sviluppando un sistema di controllo adattativo che ha consentito di ridurre l'usura della punta elicoidale e di migliorare la qualità del foro prodotto. Nell'ambito della rettifica, è stata eseguita un'indagine sulla lavorabilità per abrasione di materiali compositi a matrice metallica, valutando le forze di taglio, l'usura della mola e la rugosità superficiale del pezzo lavorato. Per quanto concerne le lavorazioni con fascio laser, sono state analizzate diverse applicazioni, quali il trattamento superficiale e la formatura di lamiere indotta dal riscaldamento prodotto dalla sorgente laser. Infine, relativamente ai processi di giunzione, sono state studiate le saldature per attrito con mescolamento di leghe di alluminio e di materiali termoplastici e le saldature di materiali dissimili.

Elenco delle pubblicazioni.

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