



Low-cost vision machine for high-throughput automated monitoring of heterotrophic seedling growth on wet paper support

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Titre du colloque	Computer Vision Problems in Plant Phenotyping (CVPPP 2018)
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Auteur	Rasti, Pejman [1], Demilly, Didier [2], Benoit, Landry [3], Belin, Etienne [4], Ducournau, Sylvie [5], Chapeau-Blondeau, François [6], Rousseau, David [7]
Pays	Royaume-Uni
Ville	Newcastle
Résumé en anglais	<p>In this communication, we propose a fully automated vision system to monitor the germination and elongation of seedlings positioned in a petri dish. While most existing systems use agar gel as transparent nutritive medium imaged in backlight, we demonstrate that although it provides a reduced contrast, not fully opaque paper can serve as efficient lower-cost medium preventing the well-known problem of seedling joining during elongation. Automatic tracking of elongating seedlings is realized with a minimal path algorithm. The three organs (radicle, hypocotyl, and cotyledon) are then segmented. Validation of the accuracy of the system is provided on sugar beet seedling by comparison with the expert-based ground truth.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua17392 [8]
Lien vers le document en ligne	https://www.semanticscholar.org/paper/Low-cost-vision-machine-for-high-t... [9]

Liens

- [1] <http://okina.univ-angers.fr/httperso-laris.univ-angers.fr/rasti/publications>
- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=9322>
- [3] <http://okina.univ-angers.fr/lanbenoit/publications>
- [4] <http://okina.univ-angers.fr/etienne.belin/publications>
- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=10378>

[6] <http://okina.univ-angers.fr/f.chapeau/publications>

[7] <http://okina.univ-angers.fr/david-rousseau/publications>

[8] <http://okina.univ-angers.fr/publications/ua17392>

[9]

<https://www.semanticscholar.org/paper/Low-cost-vision-machine-for-high-throughput-of-on-Rasti-De-milly/4b3dd193c0f3c2a236c25c2236807a82dd82a1ee>

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