

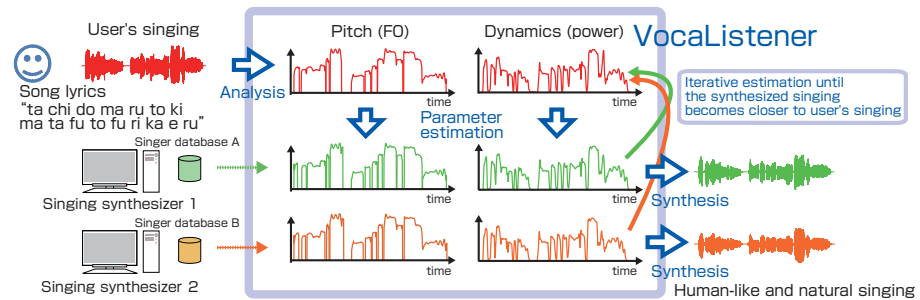
## Singing synthesis technology by mimicking user's singing

### VocaListener: Synthesis of more natural singing by mimicking pitch and dynamics of a user's singing voice

We have developed a singing synthesis system named *VocaListener* that automatically estimates parameters (pitch and dynamics) for singing synthesis by mimicking a user's singing voice with the help of song lyrics. Since a natural voice is provided by the user, the synthesized singing voice mimicking it can be human-like and natural without time-consuming manual adjustments.

VocaListener iteratively estimates singing synthesis parameters so that the synthesized singing can become more similar to the user's singing in terms of pitch and dynamics. The iterative estimation provides robustness with respect to different singing synthesis systems and their singer databases. Moreover, VocaListener has a highly accurate lyrics-to-singing synchronization function, and we also provide an interface that lets a user easily correct synchronization errors just by pointing them out. In addition, VocaListener also has a function to improve synthesized singing as if the user's singing skills were improved.

Demonstration videos including examples of synthesized singing are available at <http://staff.aist.go.jp/t.nakano/VocaListener/>.



Overview of VocaListener that automatically estimates parameters for singing synthesis from user's singing voice and its song lyrics

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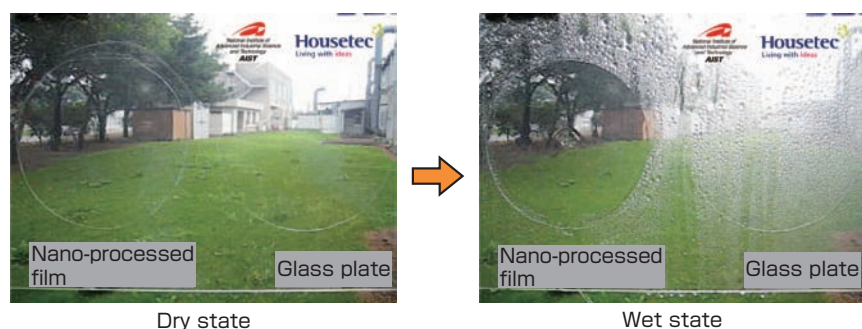
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## Hydrophilic plastic film with nanostructured surface made by nano-imprinting process

### The use of nanostructured dies realizes improved light transmission and wettability of transparent panels

We have developed a large-area hydrophilic plastic film using a nanostructure. Using a transparent poly(ethylene terephthalate) (PET) film with the pillarlike nanostructure, the super-hydrophilic effect on the plastic surface emerged when the surface was covered with huge amounts of water droplets. The super-hydrophilic effect continued for over 60 days which was longer than that of other hydrophilic materials. In addition, the PET film with the pillarlike nanostructure was produced by an imprinting process only. Thus, it was confirmed that super-hydrophilic PET film can be prepared by a low-cost process.



Wettability of nanostructure-transferred film

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