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Journal Name:	**Advances in Research**
Manuscript Number:	**2014_AIR_15197**
Title of the Manuscript:	**Effect of Sinusoidal Excitation on Fluid Flow across a Cu-Mica Microchannel**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**The authors claim that a microfluidic method is developed for automatic identification of fluids using "an indigenously fabricated Cu-Mica microchannel".** **I have some points about this work that must at least be explained in more detail. I list my concerns below:** **1. Technically, the data was adequately obtained.** **However, The results and discussion section have a very little and poor analysis.** **The conclusion "that speed of the microfluids increases with an increase in the angle of elevation. Chloroform shows maximum speed and the acceleration is maximum around the elevation angles 60°-70°. Ethanol shows minimum flow speed. Both ethanol and methanol show maximum acceleration around 80°-90° of elevation angles" is looked as a common sense.** **2. What are the conditions to validate this microsystem? The authors do not compare their results with other methods.** **3. Are there some consequences of vibrations on enclosed fluid flows around solid bodies?** **4. I don't think the authors even ever explained the obtained data in terms of the physics of the system. Some level of detail here is required. For example, the influence of viscous drag force arising from the fluid flow in the channel must be discussed.** **I recommend to report the temperature versus distance along the**	

	microchannel of an aqueous solution for different excitation frequencies. **Is there a temperature difference on any part of the experimental microchannels? Is this calibrated out?** **This point is considered in many works for calibration studies based on fluid viscosity for flows in microfluidic environments. See, for example, Review: A Review of Heating and Temperature Control in Microfluidic Systems: Techniques and Applications by Vincent Miralles, Axel Huerre, Florent Malloggi and Marie-Caroline Jullien** **Diagnostics 2013, 3(1), 33-67; doi:10.3390/diagnostics3010033.**	
Minor REVISION comments	Line 9 To Change "vibrations" to modulation. Section 2 It must be rewritten. It is not necessary basic information, see 2.2 Viscosity subsection. In section 2.1 Reynolds number, A, P parameters (Line 61) do not appear in the equation (line 60). It is undefined \mu symbol. Figures 1-5 should contain more descriptive information. The description of figures is obscurity by using line. Lines 195, 196 are repeated. Explain why only a few angles are chosen in the second, third and fourth experiments, namely, 40°, 25° and 40°. Finally, The authors must discuss the relevance of their results.	
Optional/General comments		

Reviewer Details:

Name:	**Anonymous**
Department, University & Country	**Mexico**