**TRANSMISSION ELECTRON MICROSCOPY ANALYSIS REQUEST FORM**

**TECHNICAL INFORMATION**

**PURPOSE OF THE REQUEST** : (please describe the scientific aim of your project and the details of your sample, what the problem you want to solve with TEM; ***maximum 500 words***)

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**PRELIMINARY INVESTIGATIONS AND RESULTS done by the requester** (not citations from the literature)**:**

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**EXPECTED RESULTS AND MEASUREMENT DETAILS:** (please explain the results you want to obtain, the possible answers you expect to get by TEM analysis and measurement details: shape, size, desired magnifications at images, HRTEM and EDX analysis etc, ***maximum 500 words****)*

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[ ]  please attach significant publications relevant to the subject of research

**SPECIAL SAMPLE PREPARATION** (Please state if you need FIB sectioning, (cryo)-ultramicrotomy sectioning, negative staining or any special sample preparation requirements. If yes, please describe.)

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**Results will be published** [ ]  Yes (please send us a copy) [ ]  No

**SPECIMEN IDENTIFICATION**

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| **Number of samples to be analyzed** |  |
| **Sample ID and composition** | 1- |
| 2- |
| 3- |
| **What is the size of the region of interest in the sample (specify unit)** |  |
| **Sample storage conditions****(light or temperature sensitivity, etc.)** |  |
| **Type of specimen** | [ ]  Inorganic [ ]  Organic |
| **Sample Type** | [ ]  Powder [ ]  Thin Film [ ]  Bulk[ ]  in the solution, (**solution name** is ................)[ ]  on the grid [ ]  FIB sample [ ]  FIB sample prepared at SUNUM  |
| **I would like to have unused specimen returned****I would like to have analyzed specimen returned** |  [ ]  Yes [ ]  No [ ]  Yes [ ]  No |
| **Are there any safety precautions to consider with these specimen, to human health or to the equipment (if the answer is yes, please explain below, attach MSDS forms and write the exposure limits)** |  [ ]  Yes (please explain below) [ ]  No  [ ]  MSDS attached Exposure limits:……..  |

Possible environmental risk or safety issues:

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**IMPORTANT INFORMATION**

1. SUNUM has right to reject the specimen if the specimen is inappropriate, or if the form is not filled properly. **SUNUM is not responsible for any inconvenience that may be caused due to inappropriate sample, incomplete and incorrect information before and after the analysis.**
2. The specimens may be in different forms: bulk, thin film, powder or colloidal suspensions.
3. A detailed documentation with specimen numbering has to be written in the request form. Information given has to match with the labels on the specimens.
4. **Diameter of the specimen must not exceed 3 mm.** Thickness of the specimen must not exceed 100 nanometer, and **the region that will be analyzed must be in the range of 0-100 nm.**
5. Thin film specimens must be prepared by FIB (Focused Ion Beam) or must be removed from the growth substrate.
6. Dry powder specimens must be around 5 mg.

If the powders are in the solution (water, alcohol, acetone or hexane, **never** use toluene);
i) they should be dispersed in the ultrasonic stirrer. The concentration of the powder in the solution is important for the dispersion of the powders and obtaining clear images, ii) Specimen should be received in SUNUM 2 days before the appointment date, to ensure sufficient time for specimen preparation, iii) Purity of the specimens should have been checked before submission for TEM analysis.

1. Analysis duration ranges **between 3 hrs (minimum) to 6** or more hours **for one sample** depending on the techniques that will be used during the analysis.
2. Digital data obtained after the analysis is **only** shared with the Gmail addresses written at the beginning of this form via Google Drive. *(in the STEM Analysis data; High Angle Annular Dark Field Images represented with ADF1, Annular Dark Field Images are represented with ADF2 and Bright Field Images are represented with BF)*
3. Some special analysis may require adding the name of the scientists performing the analysis in the co-authorship for any publications using the results of the electron microscopy analysis performed in SUNUM***.***
4. When disseminating, in publications or conferences, the results obtained in the analysis performed in SUNUM, the requesters are required to acknowledge the SUNUM support with a formal sentence: *“****The electron microscopy analysis leading to these results was performed at the Sabanci University Nanotechnology Research and Application Center - SUNUM”.***