הועדה לאנרגיה אטומית
ATOMIC ENERGY COMMISSION

NUCLEAR RESEARCH CENTER NEGEV
POB 9001 BEER-SHEVA ISRAEL

הקריה למחקר גרעיני - נגב
ת.ד. 9001 באר-שבע

July 2nd 2019

To:

Prof. Gary Hieftje

hieftje@indiana.edu

Dear Prof. Hieftje,.

On behalf of the Professional Staff Promotion Committee at NRCN, I would greatly appreciate receiving your advice and assistance in the following matter. **Dr. Offer Zeiri** is currently under consideration for promotion to "B" Research Grade at NRCN. The candidate's Curriculum Vitae and list of publications are enclosed.

Evaluations from scholars outside our institution are an essential component of a candidate's dossier. We would therefore welcome your detailed opinion on the quality of **Dr. Offer Zeiri** research, its depth, originality and the degree to which it represents a contribution to the field.

It may help if, in making your evaluation, you would take into account the structure of ranks at NRCN: C, B, A and A+, that are roughly equivalent to Lecturer, Senior Lecturer, Associate Professor and Full Professor at Israeli universities. We would also like to emphasize that some of the research and development work at NRCN is proprietary. We would therefore appreciate if you could base your evaluation on the quality of the candidate's work and not on its overall quantity.

If you happen to know the candidate personally, we would be grateful for your opinion on his character, cooperation with colleagues and administrative abilities.

We realize that providing the evaluation would entail investment of your precious time and effort, but hope that we can impose on you for assistance in this matter. We would appreciate receiving your response by **Aug. 04th 2019** if possible. Your letter will become part of **Dr. Offer Zeiri** file and will be held in the strictest confidence.

Yours Sincerely,

Dr. Ohad Levy
Chair, Professional Staff Promotion Committee

CV-Chernia Zelig

CURRICULUM VITAE

- **Personal Details**

Name: Zelig Chernia
Date and place of birth: June 29, 1959. Riga, Latvia
Date of immigration: 07.1971
Marital status: Married (3 children)
Nationality: Israeli
Address and telephone number at work: Analytical Chemistry Department, Nuclear Research Center Negev (NRCN), P.O.Box 9001, Beer-Sheva, Israel.
Tel: 972-8-6568356

- **Education**

1996 Ph.D, The catalytic influence of charged clay surface on adsorbed dye molecules. The configurational effect of adsorption on electronic structure. The kinetic of fluorescence of probes adsorbed upon surfaces. Thesis, Department of Physics (Chemical Physics), Ben-Gurion University of the Negev, Beer-Sheva, Israel.
Research supervisor: Prof. David Gill

1990 M.Sc. Methacromasy of the Triphenylmethine dye adsorbed upon the Montmorillonite.
Research supervisor: Prof. David Gill
Department of Physics (Chemical Physics), Ben-Gurion University of the Negev, Beer-Sheva, Israel.

1987 B.Sc. Department of Physics, Ben-Gurion University of the Negev Beer-Sheva, Israel.

CV-Chernia Zelig

- **Membership in professional societies**

Israel Chemical Society
American Chemical Society
American Institute of Physics

- **Employment History**

1987-1993: Student instructor, lecturer and researcher, Physics Department, Ben-Gurion University of the Negev.

1994-2012: Senior Researcher, Chemistry Department, NRCN.

2012-present: Senior Researcher, Analytical Department, NRCN.

2016-2017: Sabbatical leave at the department of Chemical Engineering, Ben-Gurion University of the Negev. Host: Prof. Yoav Tsori. Research topics: "The chemistry of phase separation in binary liquids"

- **Scientific Fields of Interest**

1. Study of oxidation and catalytic reaction on metal surfaces at different environmental and topological conditions: A) modeling the diffusion limited oxidation mechanism in creation of a lateral stress field for thin scale oxides, B). implementation of polarized FTIR reflectance in quantitative description of the oxidation kinetics.
2. Study of light-matter interactions in ordered structures by dielectric modeling of surfaces and interfaces.
3. Quantum-chemical description of self-assembly in organic clusters in water: Simulation of phase separation phenomena in some binary liquids. QM simulations in description of catalytic reactions.
4. Employment of QM calculations in description of an array of spectroscopic phenomena: A). photophysical light-molecules interactions, B). vibrational analysis in molecules, clusters, ordered structures and in interfaces.

- **Refereed Publications**

1. **Z.Chernia***,"Methacromasy of the Triphenylmethine dye adsorbed upon the Montmorillonite clay" (1989) MSc Thesis, BGU

2. **Z.Chernia*** and D.Gill, "Reversible self-assembly of fluorescent dimers of anthracene derivative adsorbed on Laponite", ***Chem. Phys. Let.*** (1993) vol.212, 57

3. **Z.Chernia***, D.Gill and S.Yariv, "Electric dichroism. The effect of dialysis on the color of Crystal Violet adsorbed to Montmorillonite", ***Langmuir*** (1994) vol.10, 3988

4. **Z.Chernia***, "The catalytic influence of charged clay surface on adsorbed dye molecules. The configurational effect of adsorption on electronic structure. The kinetic of fluorescence of probes adsorbed upon surfaces". (1994) PhD Thesis, BGU

5. **Z.Chernia***, "Reviewing and predicting lattice vibrational dynamics of hydrides and oxides of cerium by analyzing the phonon dispersion curves". (1995) ***NRCN***, N-95103

6. A.Bettelheim; J.Hayon; S.Weiss; **Z.Chernia**; R.Ydgar and D.Ozer, "Reflection-FTIR spectroelectrochemistry using ionically conductive polymer films: electro-chemical preparation and spectroscopic characterization of some metal hydrides", ***J.Electroanalytical Chem.*** (1996) vol.405, 251.

7. **Z.Chernia*** and D.Gill, "Flattening of TMPyP Adsorbed on Laponite. Evidence in Observed and Calculated UV/Vis Spectra". ***Langmuir*** (1999) vol.15, 1625

8. **Z.Chernia***; T.Livneh; I.Pri-Bar and J.E.Koresh, "Mode Assignment for Linear Phenyl Acetylene Sequence: PhenylAcetylene, Di-PhenylAcetylene and 1,4-Di(PhenylEthynyl)benzene". ***Vibrational Spectroscopy***, (2001) vol.25, 119.

9. **Z.Chernia***; Y.Ben-Eliyahu; G.Kimmel; G.Braun and J.Sariel, "The Initial Stage of Uranium Oxidation: Mechanism of UO_2 Scale Formation in the Presence of a Native Lateral Stress Field". ***J. Phys. Chem. B***, (2006) vol.110, 23041

10. **Z.Chernia***, "Reflectance spectroscopy in analysis of UO_2 scale: derivation of a kinetic model of uranium oxidation". ***Phys. Chem. Chem. Phys.***, (2009) 1729

11. D.Schweke; C.Maimon; **Z.Chernia** and T.Livneh, "Monitoring the in-situ oxide growth on uranium by ultraviolet-visible reflectance spectroscopy". ***J. Appl. Phys.*** (2012) Vol. 112, 093104

12. **Z.Chernia*** and Y.Tsori, "Complexation reactions in pyridine and 2,6-dimethylpyridine-water system: The Quantum-Chemical description and the path to liquid phase separation", ***J.Chem.Phys.*** (2018) vol.148, 104306