C.V.

PERSONAL DATA

Surname (Family): **Ahadi**

First name: **Amir Mohammad**

Date of Birth: **1979**

Marital status: **Married**

E.mail: **ahadi_a@scu.ac.ir**

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Current Position: **Assistant Professor**

Address: ***Physics Department, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz- Iran***

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RESEARCH TOPICS

- Synthesis of Nanomaterials and Nanoparticles by plasmas

- Plasma Charactrizations

- Materials treatment by Plasmas

- Passivation nanoparticle surfaces by chemical process

- Sheaths in dusty plasmas

- Acoustic waves in complex plasmas

- Relativistic radiation from double layers in plasmas

- Quantum plasmas

- Double layer formation and Stability in multicomponenet plasmas

EDUCATION

1997 - 2001 **BS**

Area of study: **Applied Physics**

Institute: **Shahid Chamran University of Ahvaz - Iran**

2001 - 2003 **MSc**

Area of study: **Plasma Physics**

Institute: **University of Tabriz - Iran**

Supervisor: **Prof. Samad Sobhanian**

Thesis: ***Bohm sheath criteria and double layers in multi-species plasmas***

2011 - 2016 **Ph.D**

Area of study: **Materials Science**

Institute: **University of Kiel - Germany**

Supervisor: **Prof. Franz Faupel** (Co-supervisor**: Prof. Holger Kersten**)

Thesis: ***Generation and post modification of nanoparticles by plasmas***

POSITIONS

Nov **2016 -** Now **Assistant Professor - SCU** University of Ahvaz, Iran

Feb **2004 -** Nov **2016** **Lecturer - SCU** University of Ahvaz, Iran

LANGUAGE SKILLS

- English (Fluent)

- German (Basics)

- Persian (Native)

RESEARCH PROJECTS

- **"Propagation of low frequency mechanical waves in dusty plasmas"** July 2017 – March 2018, SCU university, Ahvaz- Iran.

INVITED SPEAKER

- **On the synthesis and processing of nanoparticles by plasmas,** International Conference and School on Plasma Physics and Controlled Fusion (ICPPCF), 12 - 15 Sep 2016, Kharkov – Ukraine.

SCIENTIFIC PUBLICATIONS

- PEER REVIEWED ARTICLES

11- *A. M. Ahadi* and S. Sobhanian, **Generalized Langmuir condition and stable formation of strong double layers in multi component plasmas,** In Preparing.

10- O. Polonskyi **, *A. M. Ahadi*,** T. Peter, K. Fujioka, J. W. Abraham, E. Vasiliauskaite, A. M. Hinz, T. Strunskus, S. Wolf, M. Bonitz, H. Kersten and F. Faupel, **Plasma based formation and deposition of metal and metal oxide nanoparticles using a gas aggregation source,** The European Physical Journal D**,** 72(5), 93 (2018).

9- *A. M. Ahadi*, T. Strunskus, O. Polonskyi, T. Trottrnberg, H. Kersten and F. Faupel, **On the synthesis and processing of nanoparticles by plasmas,** Problems of Atomic Physics and Technology, 22(6) (2016)

8- ***A. M. Ahadi***, K. Hunter, N. J. Kramer, T. Strunskus, H. Kersten, F. Faupel and U. R. Kortshagen, **Controlled synthesis of germanium nanoparticles by nonthermal plasmas,** Applied Physics Letters, 108 (9), 93105 (2016)

7- ***A. M. Ahadi***, A. Hinz, O. Polonskyi, T. Trottrnberg, T. Strunskus, H. Kersten and F. Faupel, **Modification of a metal nanoparticle beam by a hollow electrode discharge,** Journal of Vacuum Science and Technology A**,** 34 (2), 21301 (2016)

6- ***A. M. Ahadi***, T. Trottrnberg, S. Rehders, T. Strunskus, H. Kersten and F. Faupel, **Characterization of a radio frequency hollow electrode discharge at low pressures,** Physics of Plasmas, 22 (8), 83513 (2015)

5- ***A. M. Ahadi***, O. Polonskyi, U. Schürmann, T. Strunskus and F. Faupel, **Stable production of TiOx nanoparticles with narrow size distribution by reactive pulsed dc magnetron sputtering,** Journal Physics D:Applied Physics, 48 (3), 35501 (2015)

4- ***A. M. Ahadi***, V. Zaporojtchenko, T. Peter, O. Polonskyi, T. Strunskus and F. Faupel, **Role of reactive gas admixtures in stabilizing nanocluster deposition from a gas aggregation source,** Journal of Nanoparticles Research, 15 (12), 2125 (2013).

3- O. Polonskyi, T. Peter, ***A. M. Ahadi***, A. Hinz, T. Strunskus, V. Zaporojtchenko, H. Biederman and F. Faupel, **Huge increase in gas phase cluster generation by reactive pulsed DC sputtering,** Applied Physics Letter, 103, 033118 (2013).

2- *T. Peter, O. Polonskyi, B. Gojdka,* ***A. M. Ahadi***, T. Strunskus, V. Zaporojtchenko, H. Biederman and F. Faupel **Influence of reactive gas admixture on transition metal cluster nucleation in a gas aggregation cluster source,** Journal of Applied Physics, 112, 114321 (2012).

1- ***A. M. Ahadi*** and S. Sobhanian, **Influence of ions on relativistic double layers radiation in astrophysical plasmas,** Iranian Journal of Physics Research, 9 (3), 281 (2009)

- BOOKS & CHAPTERS

2- ***A. M. Ahadi***, **Laboratory of Electricity and Magnetic,** Kerdegar (2010)**.**

1- ***A. M. Ahadi*** *and S. Sobhanian***, Stability of Double Layer in Multi-Ion Plasmas,** Turbulence, Dynamos, Accretion Disks, Pulsars and Collective Plasma Processes, Springer (2008)

- CONFERENCES: PRESENTATIONS & POSTERS

− ***A. M. Ahadi***, T. Trottenberg, O. Polonskyi, T. Strunskus, H. Kersten and F. Faupel, **Treatment of metal nanoparticles by an RF hollow plasma at low pressure regime**, 20th International summer school on vacuum, electron and ion technologies, 25 − 29 Sep 2017, Sozopol, Bulgaria.

− ***A. M. Ahadi***, T. Peter, O. Polonskyi, A. M. Hinz, T. Strunskus, and F. Faupel, **The influence of oxygen admixture on TiOx nanoparticle production by a cluster source**, Proceedings of the fifth conference of engineering and physics of plasma, 11 - 12 May 2017, Shahid Beheshti University, Tehran – Iran.

− O. Polonskyi, ***A. M. Ahadi***, T. Strunskus and F. Faupel, **The effect of different gas admixtures on nanoparticles formation in a gas aggregation source and their treatment by hollow cathode plasma**, 7th International Workshop on Polymer Metal Nanocomposites, 2 - 5 Nov 2015, Jaipur - India.

− ***A. M. Ahadi***, T. Trottenberg, O. Polonskyi, T. Strunskus, H. Kersten and F. Faupel, **RF hollow discharge and its influence on metal nanoclusters**, 4th Graduate Summer Institute "Complex Plasmas", 30 July - 8 August 2014, South Orange - USA.

− ***A. M. Ahadi***, T. Trottenberg, O. Polonskyi, T. Strunskus, H. Kersten and F. Faupel, **Influence of RF hollow cathode discharge on metal nanocluster beam**, 2nd German - Czech workshop Nanoparticles from low temperature plasma and their applications, 23 - 24 May 2014, Prague - Czech Republic.

− T. Strunskus, O. Polonskyi, ***A. M. Ahadi***, T. Peter and F. Faupel, **Influence of reactive gas admixtures on transition metal nanoparticles deposition by gas aggregation cluster source**, 2nd German - Czech workshop Nanoparticles from low temperature plasma and their applications, 23 - 24 May 2014, Prague - Czech Republic.

− O. Polonskyi, E. Vasiliauskaite, ***A. M. Ahadi***, A. Hinz, T. Strunskus and F. Faupel, **Highly efficient transition metal nanoparticle generation in the gas phase by reactive pulsed DC magnetron sputtering**, 2nd German - Czech workshop Nanoparticles from low temperature plasma and their applications, 23 - 24 May 2014, Prague – Czech Republic.

− O. Polonskyi, ***A. M. Ahadi***, A. Hinz, E. Vasiliauskaite, T. Strunskus and F. Faupel, **Metal and metal oxide nanoparticles generated in gas phase by pulsed DC sputtering in a reactive gas admixture**, Annual DFG meeting, 17 - 21 March 2014, Berlin - Germany.

− ***A. M. Ahadi*** , O. Polonskyi, T. Strunskus, V. Zaporojtchenko and F. Faupel, **Study of cluster formation by DC and pulsed DC magnetron sputtering in a gas aggregation source**, 18th Summer school on low temperature plasma physics, 5 - 10 Oct 2013, Bad Honnef - Germany.

− O. Polonskyi, T. Peter, ***A. M. Ahadi***, T. Strunskus and F. Faupel, **Highly efficient transition metal nanoparticle generation in the gas phase by pulsed DC magnetron sputtering**, 6th International Workshop on Polymer Metal Nanocomposites, 16 – 18 Sep 2013, Toulouse - France.

− T. Strunskus, O. Polonskyi, T. Peter, ***A. M. Ahadi***, V. Zaporojtchenko, H. Biederman and F. Faupel, **Preparation of nanoparticles and nanocomposites through high efficiency cluster generation in the gas phase by reactive pulsed DC sputtering**, European congress and exhibition on advanced materials and processes (EuroMat), 8 – 13 Sep 2013, Sevilla - Spain.

- O. Polonskyi, T. Peter, ***A. M. Ahadi***, A. Hinz, T. Strunskus, V. Zaporojtchenko, H. Biederman and F. Faupel, **High deposition rate of metal (oxide) nanoclusters generated in pulsed DC magnetron sputtering system**, Annual DFG meeting, 10 - 15 March 2013, Regensburg - Germany.

- ***A. M. Ahadi***, V. Zaporojtchenko, A. M. Hinz, T. Peter, O. Polonskyi, T. Strunskus and F. Faupel, **Role of oxygen on stabilization of TiOx cluster production by gas aggregation cluster source**, Annual DFG meeting, 10 - 15 March 2013, Regensburg - Germany.

- F. Faupel, V. Zaporojtchenko, T. Peter, ***A. M. Ahadi***, T. Strunskus, S. Zabel, O. Polonskyi and H. Biederman, **Critical Influence of oxygen on the formation of titanium nanoparticles for deposition of titania thin films from a gas aggregation cluster source**, Material Science Engineering (MSE), 25 - 27 Sep 2012, Darmstadt - Germany.