

## Res. Asst. PhD AYLİN HACISALİHOĞLU

### Personal Information

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### International Researcher IDs

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### Education Information

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Fizik Anabilimdalı, Turkey 2013 - 2020

Doctorate, Istituto Nazionale Di Fisica Nucleare Laboratori Nazionali Del Sud, Istituto Nazionale Di Fisica Nucleare , Dipartimento Di Fisica , Italy 2018 - 2018

Doctorate, Istituto Nazionale Di Fisica Nucleare Laboratori Nazionali Del Sud, Istituto Nazionale Di Fisica Nucleare , Dipartimento Di Fisica, Italy 2017 - 2018

Doctorate, Istituto Nazionale Di Fisica Nucleare Laboratori Nazionali Del Sud, Istituto Nazionale Di Fisica Nucleare , Dipartimento Di Fisica , Italy 2016 - 2016

Doctorate, Technische Universitaet Darmstadt, Faculty Of Arts&Sciences, Department Of Physics , Germany 2015 - 2015

Postgraduate, Recep Tayyip Erdogan University, Fen Bilimleri Enstitüsü, Fizik Anabilimdalı, Turkey 2010 - 2013

Undergraduate, Suleyman Demirel University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 2005 - 2009

### Foreign Languages

Italian, A2 Elementary

English, C1 Advanced

### Dissertations

Postgraduate, Gauss potansiyeli için Schrödinger denkleminin asimptotik iterasyon metodu kullanarak çözümü, Recep Tayyip Erdogan University, Fen Bilimleri Enstitüsü, Fizik Anabilimdalı, 2013

### Research Areas

Physics, High Energy Physics, Physics, Astronomy and Astrophysics, Nuclear physics, Basic Particles and Areas, Natural Sciences

### Academic Titles / Tasks

Research Assistant, Recep Tayyip Erdogan University, Fen Edebiyat Fakültesi, Fizik Bölümü, 2009 - Continues

## Courses

Genel Fizik Laboratuvarı II, Undergraduate, 2021 - 2022

Modern Fizik Laboratuvarı, Undergraduate, 2021 - 2022

Genel Fizik Laboratuvarı I, Undergraduate, 2021 - 2022

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Multichannel experimental and theoretical approach to the C 12 (O 18, F 18) B 12 single-charge-exchange reaction at 275 MeV: Initial-state interaction and single-particle properties of nuclear wave functions**  
Spatafora A., Carbone D., Cappuzzello F., Cavallaro M., Acosta L., Agodi C., Amador-Valenzuela P., Borello-Lewin T., Brischetto G., Calabrese S., et al.  
Physical Review C, vol.107, no.2, 2023 (SCI-Expanded)
- II. **Analysis of the one-neutron transfer reaction in O-18 + Se-76 collisions at 275 MeV**  
Cirraldo I., Cappuzzello F., Cavallaro M., Carbone D., Burrello S., Spatafora A., Gargano A., De Gregorio G., Vsevolodovna R. I. M., Acosta L., et al.  
PHYSICAL REVIEW C, vol.105, no.4, 2022 (SCI-Expanded)
- III. **Multichannel experimental and theoretical constraints for the Cd-116(Ne-20, F-20)In-116 charge exchange reaction at 306 MeV**  
Burrello S., Calabrese S., Cappuzzello F., Carbone D., Cavallaro M., Colonna M., Lay J. A., Lenske H., Agodi C., Ferreira J. L., et al.  
PHYSICAL REVIEW C, vol.105, no.2, 2022 (SCI-Expanded)
- IV. **O 18 -induced single-nucleon transfer reactions on Ca 40 at 15.3 A MeV within a multichannel analysis**  
Calabrese S., Cavallaro M., Carbone D., Cappuzzello F., Agodi C., Burrello S., De Gregorio G., Ferreira J. L., Gargano A., Sgouros O., et al.  
PHYSICAL REVIEW C, vol.104, no.6, pp.1-15, 2021 (SCI-Expanded)
- V. **O-18 + Se-76 elastic and inelastic scattering at 275 MeV**  
La Fauci L., Spatafora A., Cappuzzello F., Agodi C., Carbone D., Cavallaro M., Lubian J., Acosta L., Amador-Valenzuela P., Borello-Lewin T., et al.  
PHYSICAL REVIEW C, vol.104, no.5, 2021 (SCI-Expanded)
- VI. **One-proton transfer reaction for the O-18 + Ti-48 system at 275 MeV**  
Sgouros O., Cavallaro M., Cappuzzello F., Carbone D., Agodi C., Gargano A., De Gregorio G., Altana C., Brischetto G. A., Burrello S., et al.  
PHYSICAL REVIEW C, vol.104, no.3, 2021 (SCI-Expanded)
- VII. **Measurement of the double charge exchange reaction for the Ne-20**  
Soukeras V., Cappuzzello F., Carbone D., Cavallaro M., Agodi C., Acosta L., BOZTOSUN İ., Brischetto G. A., Calabrese S., Calvo D., et al.  
RESULTS IN PHYSICS, vol.28, 2021 (SCI-Expanded)
- VIII. **Initial State Interaction for the Ne-20**  
Carbone D., Linares R., Amador-Valenzuela P., Calabrese S., Cappuzzello F., Cavallaro M., Firat S., Fisichella M., Spatafora A., Acosta L., et al.  
UNIVERSE, vol.7, no.3, 2021 (SCI-Expanded)
- IX. **An upgraded focal plane detector for the MAGNEX spectrometer**  
Torresi D., Sgouros O., Soukeras V., Cavallaro M., Cappuzzello F., Carbone D., Agodi C., Brischetto G., Calabrese S., Cirraldo I., et al.  
Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, vol.989, 2021 (SCI-Expanded)
- X. **Analysis of the background on cross section measurements with the MAGNEX spectrometer: The (20Ne, 200) Double Charge Exchange case**

Calabrese S., Cappuzzello F., Carbone D., Cavallaro M., Agodi C., Torresi D., Acosta L., Bonanno D., Bongiovanni D., Borello-Lewin T., et al.

Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, vol.980, 2020 (SCI-Expanded)

- XI. **Analysis of two-nucleon transfer reactions in the Ne-20+Cd-116 system at 306 MeV**  
Carbone D., Ferreira J. L., Calabrese S., Cappuzzello F., Cavallaro M., Haciosalihoglu A., Lenske H., Lubian J., Vsevolodovna R. I. M., Santopinto E., et al.  
PHYSICAL REVIEW C, vol.102, no.4, 2020 (SCI-Expanded)
- XII. **First comparison of GEANT4 hadrontherapy physics model with experimental data for a NUMEN project reaction case**  
Oliveira J. R. B., Morales M., Flechas D., Carbone D., Cavallaro M., Torresi D., Acosta L., Agodi C., Amador-Valenzuela P., Bonanno D., et al.  
EUROPEAN PHYSICAL JOURNAL A, vol.56, no.5, 2020 (SCI-Expanded)
- XIII. **Be-9 + p breakup at 5.67A MeV in a full kinematics approach**  
Pakou A., Sgouros O., Soukeras V., Cappuzzello F., Acosta L., Agodi C., Boiano A., Calabrese S., Carbone D., Cavallaro M., et al.  
PHYSICAL REVIEW C, vol.101, no.2, 2020 (SCI-Expanded)
- XIV. **Ne-20 +Ge- 76 elastic and inelastic scattering at 306 MeV**  
Spatafora A., Cappuzzello F., Carbone D., Cavallaro M., Lay J. A., Acosta L., Agodi C., Bonanno D., Bongiovanni D., BOZTOSUN İ., et al.  
PHYSICAL REVIEW C, vol.100, no.3, 2019 (SCI-Expanded)
- XV. **Charge-state distributions of Ne-20 ions emerging from thin foils**  
CAVALLARO M., SANTAGATI G., CAPPUZZELLO F., CARBONE D., LINARES R., TORRESI D., ACOSTA L., AGODI C., BONANNO D., BONGIOVANNI D., et al.  
RESULTS IN PHYSICS, vol.13, 2019 (SCI-Expanded)
- XVI. **The NUMEN project: NUClear Matrix Elements for Neutrinoless double beta decay**  
CAPPUZZELLO F., AGODÌ C., CAVALLARO M., CARBONE D., TUDIŠCO S., Lo Presti D., Oliveira J. R. B., FÌNOCCHIÀRO P., COLONNA M., RÌFUGGIÀTO D., et al.  
EUROPEAN PHYSICAL JOURNAL A, vol.54, no.5, 2018 (SCI-Expanded)
- XVII. **FIRST MEASUREMENT OF THE Cd-116(Ne-20, O-20)Sn-116 REACTION AT 15 A MeV**  
CALABRESE S., CAPPUZZELLO F., CARBONE D., CAVALLARO M., AGODÌ C., ACOSTA L., BONANNO D., BONGIOVANNI D., Borello-Lewin T., BOZTOSUN İ., et al.  
ACTA PHYSICA POLONICA B, vol.49, no.3, pp.275-280, 2018 (SCI-Expanded)

## Articles Published in Other Journals

- I. **A focus on selected perspectives of the NUMEN project**  
Cavallaro M., Agodi C., Bellone J., Brasolin S., Brischetto G., Bussa M., Calabrese S., Calvo D., Campajola L., Capirossi V., et al.  
JOURNAL OF PHYSICS: CONFERENCE SERIES, vol.2340, no.1, pp.12036-12045, 2022 (Scopus)
- II. **A Constrained Analysis of the Ca-40(O-18,F-18)K-40 Direct Charge Exchange Reaction Mechanism at 275 MeV**  
Cavallaro M., Bellone J. I., Calabrese S., Agodi C., Burrello S., Cappuzzello F., Carbone D., Colonna M., Deshmukh N., Lenske H., et al.  
FRONTIERS IN ASTRONOMY AND SPACE SCIENCES, vol.8, 2021 (ESCI)
- III. **The NUMEN Project @ LNS: Status and perspectives**  
Cappuzzello F., Agodi C., Acosta L., Amador-Valenzuela P., Auerbach N., Barea J., Bellone J. I., Belmont D., Bijker R., Bonanno D., et al.  
NUOVO CIMENTO C-COLLOQUIA AND COMMUNICATIONS IN PHYSICS, vol.42, 2019 (ESCI)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Study of the one-neutron transfer reaction in  $180 + ^{76}\text{Se}$  collision at 275 MeV in the context of the NUMEN project**  
Ciraldo I, Cappuzzello F, Cavallaro M, Carbone D, Burrello S, Spatafora A, Gargano A, De Gregorio G, Magaña Vsevolodovna R, Acosta L., et al.  
13th International Spring Seminar on Nuclear Physics: Perspectives and Challenges in Nuclear Structure after 70 Years of Shell Model, ISS 2022, Sant'Angelo, Italy, 15 - 20 May 2022, vol.2453
- II. **Multi-channel experimental and theoretical approach to study the  $^{12}\text{C}(^{180},^{18}\text{F})^{12}\text{B}$  single charge exchange reaction**  
Spatafora A, Carbone D, Cappuzzello F, Cavallaro M, Acosta L, Agodi C, Amador-Valenzuela P, Borello-Lewin T, Brischetto G, Calabrese S, et al.  
13th International Spring Seminar on Nuclear Physics: Perspectives and Challenges in Nuclear Structure after 70 Years of Shell Model, ISS 2022, Sant'Angelo, Italy, 15 - 20 May 2022, vol.2453
- III. **Recent results on heavy-ion direct reactions of interest for  $0\nu\beta\beta$  decay at INFN - LNS**  
Cavallaro M, Acosta L, Adsley P, Agodi C, Altana C, Amador-Valenzuela P, Auerbach N, Barea J, Bellone J, Bijker R., et al.  
43rd Symposium on Nuclear Physics (SNP), Morelos, Mexico, 6 - 09 January 2020, vol.1610
- IV. **New Experimental Campaign of NUMEN Project**  
Agodi C, Cappuzzello F, Acosta L, Amador-Valenzuela P, Auerbach N, Barea J, Bellone J, Belmont D, Bijker R, Bonanno D., et al.  
Meeting on Symmetries and Order - Algebraic Methods in Many-Body Systems, Connecticut, United States Of America, 5 - 06 October 2018, vol.2150
- V. **The NUMEN Project @ LNS: Status and Perspectives**  
Cappuzzello F, Agodi C, Acosta L, Altana C, Amador-Valenzuela P, Auerbach N, Barea J, Bellone J, Bijker R, Bonanno D., et al.  
12th Workshop on Calculation of Double-Beta-Decay Matrix Elements (MEDEX), Prague, Czech Republic, 27 - 31 May 2019, vol.2165
- VI. **Recent results on heavy-ion induced reactions of interest for neutrinoless double beta decay at INFN-LNS**  
Cavallaro M, Acosta L, Agodi C, Altana C, Amador-Valenzuela P, Auerbach N, Barea J, Bellone J. I., Bijker R, Bonanno D., et al.  
4th International Conference on Nuclear Structure and Dynamics (NSD), Venice, Italy, 13 - 17 May 2019, vol.223
- VII. **The NUMEN Project @ LNS: Status and Perspectives**  
Cappuzzello F, Agodi C, Acosta L, Amador-Valenzuela P, Auerbach N, Barea J, Bellone J, Belmont D, Bijker R, Bonanno D., et al.  
Meeting on Symmetries and Order - Algebraic Methods in Many-Body Systems, Connecticut, United States Of America, 5 - 06 October 2018, vol.2150
- VIII. **Experimental issues for the measurement of the double charge exchange reactions within the NUMEN project**  
CARBONE D., CAPPUZZELLO F., AGODI C., CAVALLARO M., ACOSTA L., BONANNO D., BONGIOVANNI D., Boztosun I, CALABRESE S., CALVO D., et al.  
Conference on Neutrino and Nuclear Physics 2017, CNNP 2017, Catania, Italy, 15 - 21 October 2017, vol.1056
- IX. **Data reduction for experimental measurements within the NUMEN project**  
Calabrese S, Cappuzzello F, Agodi C, Cavallaro M, Carbone D, Acosta L, Bonanno D, Bongiovanni D, Boztosun I, Calvo D., et al.  
Conference on Neutrino and Nuclear Physics 2017, CNNP 2017, Catania, Italy, 15 - 21 October 2017, vol.1056
- X. **Measuring nuclear reaction cross sections to extract information on neutrinoless double beta decay**  
Cavallaro M, Cappuzzello F, Agodi C, Acosta L, Auerbach N, Bellone J, Bijker R, Bonanno D, Bongiovanni D, Borello-Lewin T., et al.  
12th International Spring Seminar on Nuclear Physics - Current Problems and Prospects for Nuclear Structure,

Italy, 15 - 19 May 2017, vol.966

- XI. **Experimental challenges for the measurement of the Cd-116(Ne-20,O-20)Sn-116 double charge exchange reaction at 15 AMeV**  
CARBONE D., CAPPUZZELLO F., AGODÌ C., CAVALLARO M., ACOSTA L., BONANNO D., BONGIOVANNI D., Borello T., BOZTOSUN İ., CALABRESE S., et al.  
22nd International School on Nuclear Physics, Neutron Physics and Applications, Varna, Bulgaria, 10 - 16 September 2017, vol.1023
- XII. **Experimental challenges in the measurement of double charge exchange reactions within the NUMEN project**  
Carbone D., Cappuzzello F., Agodi C., Cavallaro M., Acosta L., Bonanno D., Bongiovanni D., BOZTOSUN İ., Calabrese S., Calvo D., et al.  
41st Symposium on Nuclear Physics (Cocoyoc), Cocoyoc, Mexico, 8 - 11 January 2018, vol.1078
- XIII. **The nuclear matrix elements of 0v beta beta decay and the NUMEN project at INFN-LNS**  
Cappuzzello F., Agodi C., Aciksoz E., Acosta L., Aslanoglou X., Auerbach N., Bijker R., Bonanno D., Bongiovanni D., Borello T., et al.  
39th Symposium on Nuclear Physics (Cocoyoc), Cocoyoc, Mexico, 5 - 08 January 2016, vol.730
- XIV. **The solution of the Schrödinger equation for the Gauss potential by using the asymptotic iteration method**  
HACISALİHOĞLU A., KÜÇÜK Y.  
101st National Congress of the Italian Physical Society, Roma, Italy, 21 - 25 September 2015

## Metrics

Publication: 34

Citation (WoS): 233

Citation (Scopus): 337

H-Index (WoS): 8

H-Index (Scopus): 9