

## Assoc. Prof. CEYLAN VERDA BİTİRİM

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: A-6731-2018

ScopusID: 55487249800

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### Education Information

Doctorate, Ihsan Dogramaci Bilkent University, Institute Of Engineering And Natural Sciences, Moleküler Biyoloji Ve Genetik (Dr), Turkey 2009 - 2013

Undergraduate, Ankara University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Turkey 2007 - 2010

Undergraduate, Ankara University, Fen Fakültesi, Biyoloji Bölümü, Turkey 2004 - 2009

### Research Areas

Health Sciences, Natural Sciences

### Academic Titles / Tasks

Lecturer, Ankara University, Kök Hücre Enstitüsü, 2018 - Continues

### Courses

Epigenetik ve Kök Hücre, Doctorate, 2023 - 2024

Gelişim Biyolojisi Ve Kök Hücre, Postgraduate, 2023 - 2024

STEM CELL MOLECULAR BIOLOGY AND GENETICS, Doctorate, 2023 - 2024

Kök Hücre Moleküler Biyolojisi Ve Genetiği, Doctorate, 2023 - 2024

Kök Hücre Ve Yenileyici Tıpta Temel Kavramlar, Doctorate, 2022 - 2023

ADVANCED CELL BIOLOGY, Doctorate, 2022 - 2023

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

- I. The Role of Zinc on Liver Fibrosis by Modulating ZIP14 Expression Throughout Epigenetic Regulatory Mechanisms**  
Aksoy-Ozer Z. B., BİTİRİM C. V., TURAN B., AKÇALI K. C.  
BIOLOGICAL TRACE ELEMENT RESEARCH, vol.202, no.11, pp.5094-5105, 2024 (SCI-Expanded)
- II. Cardioprotective role of a magnolol and honokiol complex in the prevention of doxorubicin-**

**mediated cardiotoxicity in adult rats**

Aktay I, BİTİRİM C. V., OLĞAR Y., DURAK A., TUNCAY E., BİLLUR D., AKÇALI K. C., TURAN B.  
Molecular and Cellular Biochemistry, vol.479, no.2, pp.337-350, 2024 (SCI-Expanded)

- III. **Morphological and functional analysis of cardiac ameliorations in elderly rats supplemented with a magnolol extract complex.**  
Billur D., Aktay İ., Bayram P., Bitirim C. V., Turan B.  
INTERNATIONAL JOURNAL OF MORPHOLOGY, vol.41, no.3, pp.915-925, 2023 (SCI-Expanded)
- IV. **Cardioprotective effect of extracellular vesicles derived from ticagrelor-pretreated cardiomyocyte on hyperglycemic cardiomyocytes through alleviation of oxidative and endoplasmic reticulum stress**  
BİTİRİM C. V., ÖZER H. B., Aydos D., Genc K., Demirsoy S., AKÇALI K. C., TURAN B.  
Scientific Reports, vol.12, no.1, 2022 (SCI-Expanded)
- V. **Insulin acts as an atypical KCNQ1/KCNE1-current activator and reverses long QT in insulin-resistant aged rats by accelerating the ventricular action potential repolarization through affecting the beta(3)-adrenergic receptor signaling pathway**  
OLĞAR Y., DURAK A., Bitirim C. V., TUNCAY E., Turan B.  
JOURNAL OF CELLULAR PHYSIOLOGY, vol.237, no.2, pp.1353-1371, 2022 (SCI-Expanded)
- VI. **Insulin-induced recovery in KCNQ1/KCNE1-current accelerates the ventricular action potential repolarization in insulin-resistant aged-rats via affecting beta(3)-adrenergic receptors**  
OLĞAR Y., DURAK A., BİTİRİM C. V., TUNCAY E., Turan B.  
BIOPHYSICAL JOURNAL, vol.121, no.3, pp.87, 2022 (SCI-Expanded)
- VII. **Modulatory role of OKG on delayed rectifier potassium channels in ventricular cardiomyocytes from metabolic syndrome rats**  
TUNCAY E., OLĞAR Y., DURAK A., BİTİRİM C. V., Turan B.  
BIOPHYSICAL JOURNAL, vol.121, no.3, 2022 (SCI-Expanded)
- VIII. **The role of zinc transporter proteins as predictive and prognostic biomarkers of hepatocellular cancer.**  
Bitirim C. V.  
PeerJ, vol.9, 2021 (SCI-Expanded)
- IX. **Estrogen receptor alpha regulates the expression of adipogenic genes genetically and epigenetically in rat bone marrow-derived mesenchymal stem cells.**  
V. Bitirim C. V., Ozer Z. B., AKÇALI K. C.  
PeerJ, vol.9, 2021 (SCI-Expanded)
- X. **Ribavirin shows antiviral activity against SARS-CoV-2 and downregulates the activity of TMPRSS2 and the expression of ACE2 in vitro**  
ÜNAL M. A., BİTİRİM C. V., Summak G. Y., BEREKETOĞLU NERGİS S., Zeytin I. C., Besbinar O., Gurcan C., Aydos D., Goksoy E., Kocakaya E., et al.  
CANADIAN JOURNAL OF PHYSIOLOGY AND PHARMACOLOGY, vol.99, no.5, pp.449-460, 2021 (SCI-Expanded)
- XI. **Titin and CK2 alpha are New Intracellular Targets in Acute Insulin Application-Associated Benefits on Electrophysiological Parameters of Left Ventricular Cardiomyocytes From Insulin-Resistant Metabolic Syndrome Rats**  
DURAK A., Bitirim C. V., Turan B.  
CARDIOVASCULAR DRUGS AND THERAPY, vol.34, no.4, pp.487-501, 2020 (SCI-Expanded)
- XII. **Photocatalytically Active Graphitic Carbon Nitride as an Effective and Safe 2D Material for In Vitro and In Vivo Photodynamic Therapy**  
Taheri H., Ünal M. A., Sevim M., Gurcan C., Ekim O., Ceylan A., Syrgiannis Z., Christoforidis K. C., Bosi S., Ozgenc Ö., et al.  
SMALL, no.10, 2020 (SCI-Expanded)
- XIII. **beta(3)-adrenergic receptor activation plays an important role in the depressed myocardial contractility via both elevated levels of cellular free Zn<sup>2+</sup> and reactive nitrogen species**  
TUNCAY E., OLĞAR Y., DURAK A., Degirmenci S., BİTİRİM C. V., Turan B.  
JOURNAL OF CELLULAR PHYSIOLOGY, vol.234, no.8, pp.13370-13386, 2019 (SCI-Expanded)

- XIV. **Zn<sup>2+</sup>-transporters ZIP7 and ZnT7 play important role in progression of cardiac dysfunction via affecting sarco(endo)plasmic reticulum-mitochondria coupling in hyperglycemic cardiomyocytes**  
TUNCAY E., BİTİRİM C. V., OLĞAR Y., DURAK A., Rutter G. A., Turan B.  
MITOCHONDRION, vol.44, pp.41-52, 2019 (SCI-Expanded)
- XV. **Demonstration of subcellular migration of CK2 alpha localization from nucleus to sarco(endo)plasmic reticulum in mammalian cardiomyocytes under hyperglycemia**  
BİTİRİM C. V., TUNCAY E., Turan B.  
MOLECULAR AND CELLULAR BIOCHEMISTRY, vol.443, no.1-2, pp.25-36, 2018 (SCI-Expanded)
- XVI. **Increased free Zn<sup>2+</sup> correlates induction of sarco(endo)plasmic reticulum stress via altered expression levels of Zn<sup>2+</sup>-transporters in heart failure**  
OLĞAR Y., DURAK A., TUNCAY E., BİTİRİM C. V., ÖZÇINAR E., İNAN M. B., TOKCAER KESKİN Z., AKÇALI K. C., AKAR A. R., Turan B.  
JOURNAL OF CELLULAR AND MOLECULAR MEDICINE, vol.22, no.3, pp.1944-1956, 2018 (SCI-Expanded)
- XVII. **Hyperglycemia-Induced Changes in ZIP7 and ZnT7 Expression Cause Zn<sup>2+</sup> Release From the Sarco(endo)plasmic Reticulum and Mediate ER Stress in the Heart**  
TUNCAY E., BİTİRİM C. V., DURAK A., Carrat G. R. J., Taylor K. M., Rutter G. A., Turan B.  
DIABETES, vol.66, no.5, pp.1346-1358, 2017 (SCI-Expanded)
- XVIII. **Prokineticin receptor 1 is required for mesenchymal-epithelial transition in kidney development**  
Arora H., Boulberdaa M., Qureshi R., Bitirim V., Messadeq N., Dolle P., Nebigil C. G.  
FASEB JOURNAL, vol.30, no.8, pp.2733-2740, 2016 (SCI-Expanded)
- XIX. **Prokineticin receptor-1 signaling promotes Epicardial to Mesenchymal Transition during heart development**  
Arora H., Boulberdaa M., Qureshi R., Bitirim V., Gasser A., Messaddeq N., Dolle P., Nebigil C. G.  
SCIENTIFIC REPORTS, vol.6, 2016 (SCI-Expanded)
- XX. **A new tool for differentiating hepatocellular cancer cells: Patterned carbon nanotube arrays**  
Kucukayan-Dogu G., Gozen D., Bitirim V., AKÇALI K. C., BENGÜ E.  
APPLIED SURFACE SCIENCE, vol.351, pp.27-32, 2015 (SCI-Expanded)
- XXI. **PROKINETICIN RECEPTOR-1 IS ESSENTIAL TO REGULATE CARDIAC AND RENAL DEVELOPMENT AND FUNCTION**  
Gasser A., BİTİRİM C. V., Boulderbaa M., Ruiz-Lozano P., Geny B., Nebigil C.  
ACTA PHYSIOLOGICA, vol.214, pp.59-60, 2015 (SCI-Expanded)
- XXII. **Patterned carbon nanotubes as a new three-dimensional scaffold for mesenchymal stem cells**  
BİTİRİM C. V., Kucukayan-Dogu G., BENGÜ E., AKÇALI K. C.  
MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, vol.33, no.5, pp.3054-3060, 2013 (SCI-Expanded)
- XXIII. **Poly (hydroxyethyl methacrylate-glycidyl methacrylate) films modified with different functional groups: In vitro interactions with platelets and rat stem cells**  
BAYRAMOĞLU G., Bitirim V., TUNALI Y., Arica M. Y., AKÇALI K. C.  
MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, vol.33, no.2, pp.801-810, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Magnolia Officinalis Ekstraktının Kardiyak Yaşlanmada Gözlenen Mitokondri Fonksiyon Bozukluğu Üzerindeki Düzenleyici Etkileri**  
BİTİRİM C. V.  
Ankara Üniversitesi Tıp Fakültesi Mecmuası, vol.75, pp.22-27, 2022 (Peer-Reviewed Journal)
- II. **Beneficial Effect of a Mitochondrial-targeted Antioxidant Mitotempo in Insulin-resistant Mammalian Cardiac Dysfunction**  
Bitirim C. V., Olğar Y., Billur D., Akçalı K. C., Turan B.

Ankara Üniversitesi Tıp Fakültesi Mecmuası, vol.74, no.2, pp.252-258, 2021 (Peer-Reviewed Journal)

III. **Utility investigation of automated techniques in hematopoietic progenitor cell count and viability assessment in the Good Manufacturing Practice (GMP) setting**

Kılıç P., Bay M., Baydın P., Şeker Ş., Coşkun Ö., Ülker O. L., Parmaksız M., Bitirim C. V., Cevheroğlu O., Deniz G. C., et al. Experimental Biomedical Research, vol.3, no.4, pp.231-238, 2020 (Peer-Reviewed Journal)

## Books & Book Chapters

I. **Role of Extracellular Vesicles in Cardiac Regeneration**

Bitirim C. V.

in: Extracellular Vesicles - Applications and Therapeutic Potential, Manash Paul, Tomasz Brzozowski, Editor, IntechOpen, London, pp.75-80, 2024

## Refereed Congress / Symposium Publications in Proceedings

I. **MITOCHONDRIAL DYSFUNCTION AND ELECTROPHYSIOLOGICAL ABNORMALITIES IN SMA PATIENT-DERIVED IPSCS**

Bitirim C. V.

ISSCR 2024, Hamburg, Germany, 10 - 13 July 2024, pp.626

II. **Improving stem cell-based therapy in cardiac failure: The effect of Estrogen on regenerative capacity of Cardiac Progenitor Cells**

BİTİRİM C. V.

9th European Section Meeting of the International Academy of Cardiovascular Sciences, Timisoara, Romania, 4 - 07 October 2023

III. **Mitochondrial Dysfunction in iPSC-derived Ventricular Cardiomyocytes in Spinal Muscular Atrophy**

Bitirim C. V., Olğar Y.

9th European Section Meeting of the International Academy of Cardiovascular Sciences (IACS-ES), Timisoara, Romania, 4 - 07 October 2023, pp.157

IV. **Effects of Exosomal Modulation on Cardiac Regeneration and Cardioprotection in Cardiac Stem Cells**

BİTİRİM C. V.

1st IMPACT COST Action Innovation Grant meeting, Trieste, Italy, 11 January 2023

V. **Estrogen induces the regenerative capacity of Sca1+cardiac progenitor cells**

Genç K., OLĞAR Y., BİTİRİM C. V.

24th World Congress of the International-Society-for-Heart-Research, Berlin, Germany, 12 - 15 June 2022

VI. **In vivo and in vitro Investigation of the Role of Estrogen on regeneration potential of Cardiac Progenitor Cells**

BİTİRİM C. V., Genç K., OLĞAR Y.

Weinstein Cardiovascular Development and Regeneration Conference, MARSİLYA, France, 12 May 2022

VII. **N-asetilsisteinin ekstraselüler veziküller aracılığı ile kardiyak yaşlanmaya bağlı ROS üretimi üzerindeki etkisi**

BİTİRİM C. V.

INTERNATIONAL AEGEAN HEALTH AREAS SYMPOSIUM 2022, Turkey, 07 March 2022

VIII. **Kardiyosfer Kökenli kök hücreler ve Sca1+ kardiyak kök hücrelerin rejeneratif kapasitelerinin östrojen muamelesi ile fonksiyonel düzeyde artırılması**

BİTİRİM C. V.

10. ULUSAL MOLEKÜLER BİYOLOJİ VE BİYOTEKNOLOJİ KONGRESİ, Turkey, 18 December 2021

IX. **Estrogen Treatment Provides Cardioprotection by Regulating Pathophysiological Pathways in Hyperglycemic Cardiomyocytes**

BİTİRİM C. V.

INTERNATIONAL AEGEAN HEALTH AREAS SYMPOSIUM 2021, Turkey, 18 December 2021

- X. **ENHANCEMENT OF FUNCTIONAL, ELECTROPHYSIOLOGICAL AND CLONING PROPERTIES OF CARDIOSPHERE DERIVED STEM CELLS AND SCA1+ CARDIAC STEM CELLS BY EX VIVO ESTROGEN TREATMENT**  
BİTİRİM C. V.  
7. INTERNATIONAL ISTANBUL SCIENTIFIC RESEARCH CONGRESS, İstanbul, Turkey, 18 December 2021
- XI. **Östrojenin mezenkimal kök hücrelerden salınan ve kardiyak rejenerasyonunda rol alan eksozomal miRNA profili değişimindeki rolü**  
BİTİRİM C. V.  
32. Ulusal Biyokimya Kongresi, Gaziantep, Turkey, 28 October 2021, vol.46
- XII. **THE ROLE OF EXOSOMAL MODULATION IN CARDIAC REGENERATION AND CARDIOPROTECTION**  
BİTİRİM C. V.  
3rd International Congress on Multidisciplinary Studies in Medical Sciences, Ankara, Turkey, 17 August 2021
- XIII. **The Role of Zinc Transporter Proteins as Predictive and Prognostic Biomarkers of Hepatocellular Cancer**  
BİTİRİM C. V.  
International Conference of Trace Elements and Minerals-ICTEM Online Meeting of 36th GMS, 7th ISZB, TEMA17 and 13th ISTERH, Germany, 02 August 2021
- XIV. **TICAGRELOR PROVIDES CARDIOPROTECTION IN HYPERGLYCEMIA VIA EXOSOMAL MODULATION**  
BİTİRİM C. V.  
4TH HEALTH SCIENCES AND INNOVATION CONGRESS, Azerbaijan, 05 July 2021
- XV. **İnsülin Uygulamasının Oksidatif Stresİndüklü Kalp Fonksiyon Bozukluğundaki Koruyucu Etki Yolağının Metabolik Sendromlu Sıçan Ventrikül Kardiyomiyositlerinde İncelenmesi**  
DURAK A., BİTİRİM C. V., TURAN B.  
31. ulusal biyofizik kongresi, Adana, Turkey, 09 October 2019
- XVI. **Prokineticin receptor-1 Induces Epicardial-Derived Progenitor Cell Differentiation via Regulating Epicardial to Mesenchymal Transition in Epicardium**  
BİTİRİM C. V., Arora H., Boulberdaa M., Nebigil C. G., Gasser A.  
International Symposium of Cellular Therapy in Cardiovascular Medicine: Stem Cell Opportunity, Ankara, Turkey, 30 October - 01 November 2019
- XVII. **REGULATION OF MITOCHONDRIAL ZN2 LEVEL BY ZN2 TRANSPORTER ZIP7 EFFECTS SARCO(ENDO)PLASMIC RETICULUM S(ER)-MITOCHONDRIA COUPLING IN HYPERGLYCEMIA**  
TUNCAY E., BİTİRİM C. V., OLĞAR Y., TOY A., TURAN B.  
13 th Conference on Mitochondrial Physiology MİP2018/ MitoEAGLE, Jurmala, Latvia, 18 - 21 September 2018
- XVIII. **Zn - Transporters ZIP7 and ZNT7 Play Important Role n Progression of Cardac Dysfuncton Va Affectng S(ER)-Mtochondra Couplng n Hyperglycemc Rat Heart**  
BİTİRİM C. V., DURAK A., TURAN B., TUNCAY E.  
International Congress of the Molecular Biology Association of Turkey, İstanbul, Turkey, 08 September 2017
- XIX. **Role of Zinc Transporters in Mammalian Heart under Physiological and Pathological Conditions**  
DURAK A., OLĞAR Y., TUNCAY E., BİTİRİM C. V., ÖZÇINAR E., İNAN M. B., AKÇALI K. C., ÖZDEMİR S., AKAR A. R., Turan B.  
58th Annual Meeting of the Biophysical-Society, San-Francisco, Costa Rica, 15 - 19 February 2014, vol.112
- XX. **Role of ZIP7 in Regulation of Cytosolic Free Zn2+ Level in Mammalian Cardiomyocytes**  
TUNCAY E., BİTİRİM C. V., Toy A., Keskin Z. T., Akcali K. C., Rutter G. A., Turan B.  
60th Annual Meeting of the Biophysical-Society, Los-Angeles, Chile, 27 February - 02 March 2016, vol.110
- XXI. **Effect of estrogen on epigenetic and genetic regulation of adipogenesis of mesenchymal stem cells**  
BİTİRİM C. V., AKÇALI K. C.  
EMBO Conference series- Chromatin and epigenetics, Heidelberg, Germany, 08 May 2013
- XXII. **EFFECT OF ESTROGEN ON THE DIFFERENTIATION OF BONE MARROW DERIVED RAT MESENCHYMAL STEM CELLS INTO ADIPOCYTES AND OSTEOCYTES**  
BİTİRİM C. V., Ayaloğlu-Bütün F., AKÇALI K. C.

## Supported Projects

- Bitirim C. V., Telkoparan Akıllılar P., Turan B., Tuncay E., Sezgin E., TÜBİTAK - AB COST Project, Dual GIP/GLP-1 Reseptör Agonisti Tirzapatidenin Kalpteki Hedef ve Hedef Dışı Etki Mekanizmasının "Kardiyometabolik-Temelli Yaşlı Memeli Kalp Modeli" Kullanılarak İncelenmesi, 2024 - 2027
- Bitirim C. V., Olğar Y., Turan B., FP1 Project, Bridging the gap between cardiac and vascular regeneration, 2024 - 2027
- Tuncay E., Akat F., Billur D., Bitirim C. V., Tokcaer Keskin Z., Turan B., TUBİTAK Project, İnsülin Direnci Gelişmiş Kardiyomiyositlerde Sirtüin-Deasetilazlarının GLUT4 Trafığı Üzerindeki Etkilerinin İncelenmesi Ve Tedavi Edici Özelliğinin Değerlendirilmesi, 2023 - 2026
- Özkan S. A., Sezgintürk M. K., Karaca E. E., Yılmaz Aktuna A., Bitirim C. V., Evren Kemer Ö., Research Project of the Presidency of Turkey Health Institutes (TÜSEB), Tekrarlayan Descemet Membran Endotelial Keratoplasti Yapılan Hastalarda Ön Kamara Sıvısında Sitomegalovirüs Varlığının Araştırılması İçin Lateral Flow (Yanal Akış) Sisteminin Geliştirilmesi, 2023 - 2025
- Bitirim C. V., Çevik D., TUBİTAK Project, Hepatoselüler Karsinoma Hücre Hatlarında Sülfurafan Tarafından Düzenlenen Mikrona Ağının Belirlenmesi Ve Epitelyal Mezenkimal Geçiş (Emt) İle İlişkili Mikronaların Ve Hedef Genlerinin Fonksiyonel Analizi, 2023 - 2025
- Akçalı K. C., Yılmaz Aktuna A., Ünal M. A., Bitirim C. V., Kiran F., Kaya B., Oto Ç., Kiliç P., Özkan S. A., Kıyan Z., et al., TUBİTAK Project, Regenerative and Restorative Medicine Research and Practice, 2021 - 2025
- Bitirim C. V., Olğar Y., Project Supported by Other Official Institutions, Spinal müsküler atrofi (SMA)'ye bağlı gelişen kardiyak bozukluklara sebep olan genlerin transkriptom düzeyinde incelenerek belirlenmesi, 2023 - 2024
- Bitirim C. V., Olğar Y., TUBİTAK Project, Östrojenin Kardiyak Progenitör Hücre Farklılaşması Üzerindeki Rolünün In Vivo Ve In Vitro İncelenmesi, 2021 - 2024
- Yılmaz Aktuna A., Akçalı K. C., Bitirim C. V., Özkan S. A., Ünal M. A., TUBİTAK Project, Ülkemizde ve Dünyada Halk Sağlığını En Fazla Tehdit Eden HIV, HPV ve Influenza Kaynaklı Enfeksiyonlara Karşı Tanı Kitleri, İlaç Formülasyonları ve Aşı Geliştirilmesi (TUBİTAK-18AG020), 2020 - 2024
- Fidan Ç., Devrim E., Akçalı K. C., Savaş B., Yüksel S., Bitirim C. V., TUBİTAK Project, Gallik Asidin Deneysel Kolon Kanseri Oluşturulan Ratlarda Endoplazmik Retikulum Stres Yolağı ve Bağırsak Epitel Kök Hücreleri Üzerine Etkileri, 2021 - 2022
- Akçalı K. C., Yılmaz Aktuna A., Bitirim C. V., Ünal M. A., Kiliç P., BOZKIR A., TUBİTAK Project, Development of Diagnostic Kits, Drug Formulations and Vaccines Against HIV, HPV and Influenza-borne Infections that Mostly Threaten Public Health in Our Country and in the World, 2020 - 2022
- Bitirim C. V., Project Supported by Higher Education Institutions, Mezenkimal kök hücre ve kardiyak progenitör hücrelerden salınan ve kardiyak rejenerasyonunda rol alan eksozomal miRNA'xxların değişiminde östrojenin rolü, 2019 - 2022

## Memberships / Tasks in Scientific Organizations

COST | European Cooperation in Science and Technology, Member, 2023 - Continues, Belgium

## Scientific Refereeing

R&D Project of Group B, TÜSEB, Turkey, August 2024

## Scientific Research / Working Group Memberships

Cost-Metaheart Action, Ankara University, Turkey, <https://www.cost.eu/actions/CA22169/>, 2023 - Continues

## **Metrics**

Publication: 50

Citation (WoS): 336

Citation (Scopus): 370

H-Index (WoS): 9

H-Index (Scopus): 9