

# Prof. KADİR PEKMEZ

## Personal Information

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## Education Information

Doctorate, Hacettepe University, Fen Fakültesi, Kimya Bölümü, Turkey 1987 - 1991

Postgraduate, Hacettepe University, Fen Fakültesi, Kimya Bölümü, Turkey 1984 - 1986

Undergraduate, Ankara University, Fen Fakültesi, Kimya Mühendisliği, Turkey 1979 - 1983

## Foreign Languages

English, B2 Upper Intermediate

German, B1 Intermediate

## Research Areas

Chemistry, Analytical Chemistry, Electromagnetic Methods, Physical Chemistry, Conductive Polymers, Fuel Cells, Natural Sciences

## Academic Titles / Tasks

Professor, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 2003 - Continues

Associate Professor, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 1995 - 2003

Assistant Professor, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 1992 - 1995

Research Assistant, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 1984 - 1992

Research Assistant, Uludağ Üniversitesi, Fen-Edebiyat Fakültesi, Kimya Bölümü, 1984 - 1984

## Academic and Administrative Experience

Hacettepe Üniversitesi, Fen Fakültesi, Kimya Bölümü, 2014 - 2016

Hacettepe Üniversitesi, Fen Fakültesi, Kimya Bölümü, 2008 - 2014

Hacettepe Üniversitesi, Fen Fakültesi, 2012 - 2013

## Courses

ANALİTİK KİMYA LAB I, Undergraduate, 2016 - 2017

ENSTRUMENTAL ANALİZ II, Undergraduate, 2016 - 2017

## Advising Theses

- PEKMEZ K., Susuz ortamda TiO<sub>x</sub> filmlerinin elektrokimyasal olarak hazırlanması ve karakterizasyonu, Doctorate, Z.ERTEKİN(Student), 2016
- PEKMEZ K., Karbondioksitin su ve organik çözücü karışımlarında elektrokimyasal indirgenmesi ve indirgenme ürünlerinin kütle spektroskopisi ve izotop oranlı kütle spektroskopisi yöntemleri ile belirlenmesi, Doctorate, Y.MERT(Student), 2015
- PEKMEZ K., Kurşun dioksit'in karbon esaslı elektrotlar üzerine kurşun (II) çözeltileri içinde elektrokimyasal biriktirilmesi, Postgraduate, A.ALTINAY(Student), 2014
- PEKMEZ K., Pirolün florosülfonik asit ve klorosülfonik asit varlığında elektrokimyasal polimerizasyonu, Postgraduate, D.KIZILELMA(Student), 2013
- PEKMEZ K., The investigation of electrochemical and spectroelectrochemical behaviour of carbazole and some carbazole derivatives, Doctorate, H.ELAMİN(Student), 2012
- PEKMEZ K., Polipirol, politiyofen ve polianilin üzerine, metal nanoparçacıkları biriktirilmesi yoluyla, susuz ortamda elektrokatalizör sentezi, Doctorate, F.ELGİN(Student), 2011
- PEKMEZ K., Karboksilik asit içeren polipirol filmlerinin elektrokimyasal sentezi ve karakterizasyonu, Doctorate, F.KALAFAT(Student), 2010
- PEKMEZ K., Demir (II), nikel (II) ve kobalt (II) iyonlarının susuz asetonitril ortamındaki elektrokimyasal davranışlarının incelenmesi, Postgraduate, A.ÇALIŞKAN(Student), 2008
- PEKMEZ K., Nernst potansiyeli altında bakır, kurşun, kadmiyumun altın ve platin elektrotlar üzerinde susuz asetonitril ortamında biriktirilmesi, Postgraduate, İ.HÜDAİ(Student), 2008

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

- I. **The electrochemical performance of manganese oxoborate cathodes for lithium-ion batteries: Effect of synthesis method**  
ERTEKİN Z., Ozgenc G., ÖZER D., İÇTEN O., Elmaci G., Kose D., PEKMEZ K., KARAN B.  
Ceramics International, vol.47, no.24, pp.35312-35319, 2021 (Journal Indexed in SCI)
- II. **Manganese Oxoborate-Based Nanostructures as Novel Oxygen Evolution Catalysts in Neutral Media**  
ELMACI G., İÇTEN O., ÖZER D., Ozgenc G., ERTEKİN Z., KÖSE D. A. , PEKMEZ K., Zumreoglu-Karan B.  
CHEMNANOMAT, 2021 (Journal Indexed in SCI)
- III. **Synthetic routes to manganese oxoborate and correlations between experimental parameters and properties**  
İÇTEN O., Ozgenc G., ÖZER D., Kose D., Elmaci G., ERTEKİN Z., PEKMEZ K., KARAN B.  
Ceramics International, vol.47, pp.17353-17360, 2021 (Journal Indexed in SCI)
- IV. **Room temperature electrosynthesis of TinO<sub>2</sub>n-1 film and its bilayer with PNMPy on mild steel for corrosion protection in sulphuric acid**  
Pekmez N. O. , Ugur M., KARACA E., ERTEKİN Z., PEKMEZ K.  
ELECTROCHIMICA ACTA, vol.376, 2021 (Journal Indexed in SCI)
- V. **Application of EIS technique to investigate the adsorption of different types of depressants on pyrite**  
ERTEKİN Z., PEKMEZ K., Kappes R., EKMEKÇİ Z.  
PHYSICOCHEMICAL PROBLEMS OF MINERAL PROCESSING, vol.57, no.3, pp.112-126, 2021 (Journal Indexed in SCI)
- VI. **4.2 V Stack of metal oxide-polypyrrole-based composite electrodes and their power management**  
KARACA E., GÖKCEN D., Pekmez N. Ö. , PEKMEZ K., Uğur M., Aksu N. D.  
International Journal of Energy Research, vol.44, no.11, pp.8666-8680, 2020 (Journal Indexed in SCI Expanded)
- VII. **One-step electrochemical deposition of thin film titanium suboxide in basic titanyl sulfate solution at room temperature**  
ERTEKİN Z., Pekmez N. O. , PEKMEZ K.  
JOURNAL OF SOLID STATE ELECTROCHEMISTRY, vol.24, no.4, pp.975-986, 2020 (Journal Indexed in SCI)
- VIII. **Electrosynthesis and characterizations of electrochromic and soluble polymer films based on N-**

**substituted carbazole derivates**

Elkhdr H. E. , ERTEKİN Z., Udum Y. A. , PEKMEZ K.

SYNTHETIC METALS, vol.260, 2020 (Journal Indexed in SCI)

- IX. **Galvanostatic synthesis of nanostructured Ag-Ag<sub>2</sub>O dispersed PPy composite on graphite electrode for supercapacitor applications**  
KARACA E., GÖKCEN D., Pekmez N. O. , PEKMEZ K.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.44, pp.158-170, 2020 (Journal Indexed in SCI)
- X. **Electrochemical synthesis of PPy composites with nanostructured MnO<sub>x</sub>, CoO<sub>x</sub>, NiO<sub>x</sub>, and FeO<sub>x</sub> in acetonitrile for supercapacitor applications**  
Karaca E., GÖKCEN D., Pekmez N. O. , PEKMEZ K.  
ELECTROCHIMICA ACTA, vol.305, pp.502-513, 2019 (Journal Indexed in SCI)
- XI. **Memristive behavior of TiO<sub>x</sub> obtained via Pb(II)-assisted anodic oxidation process**  
GÖKCEN D., Senturk O., Karaca E., Pekmez N. O. , PEKMEZ K.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.30, no.6, pp.5733-5743, 2019 (Journal Indexed in SCI)
- XII. **Fuel effects on Li<sub>2</sub>CuP<sub>2</sub>O<sub>7</sub> synthesized by solution combustion method for lithium-ion batteries**  
ÖZER D., ERTEKİN Z., PEKMEZ K., Oztas N. A.  
CERAMICS INTERNATIONAL, vol.45, no.4, pp.4626-4630, 2019 (Journal Indexed in SCI)
- XIII. **An Enzyme-free H<sub>2</sub>O<sub>2</sub> Sensor Based on Poly(2-Aminophenylbenzimidazole)/Gold Nanoparticles Coated Pencil Graphite Electrode**  
Teker M. S. , KARACA E., Pekmez N. O. , Tamer U., PEKMEZ K.  
ELECTROANALYSIS, vol.31, no.1, pp.75-82, 2019 (Journal Indexed in SCI)
- XIV. **One-step electrosynthesis of polypyrrole/PbO<sub>x</sub> composite in acetonitrile as supercapacitor electrode material**  
Karaca E., GÖKCEN D., Pekmez N. O. , PEKMEZ K.  
SYNTHETIC METALS, vol.247, pp.255-267, 2019 (Journal Indexed in SCI)
- XV. **Electrosynthesis of polypyrrole-vanadium oxide composites on graphite electrode in acetonitrile in the presence of carboxymethyl cellulose for electrochemical supercapacitors**  
KARACA E., PEKMEZ K., Pekmez N. O.  
ELECTROCHIMICA ACTA, vol.273, pp.379-391, 2018 (Journal Indexed in SCI)
- XVI. **Evaluation of collector adsorption by electrochemical impedance spectroscopy**  
ERTEKİN Z., PEKMEZ K., EKMEKÇİ Z.  
INTERNATIONAL JOURNAL OF MINERAL PROCESSING, vol.154, pp.16-23, 2016 (Journal Indexed in SCI)
- XVII. **Cathodic electrochemical deposition of Magneli phases TinO<sub>2n-1</sub> thin films at different temperatures in acetonitrile solution**  
ERTEKİN Z., Tamer U., PEKMEZ K.  
ELECTROCHIMICA ACTA, vol.163, pp.77-81, 2015 (Journal Indexed in SCI)
- XVIII. **Galvanostatic deposition of polypyrrole in the presence of tartaric acid for electrochemical supercapacitor**  
KARACA E., PEKMEZ N. O. , PEKMEZ K.  
ELECTROCHIMICA ACTA, vol.147, pp.545-556, 2014 (Journal Indexed in SCI)
- XIX. **Electrochemical synthesis, characterization and capacitive properties of novel thiophene based conjugated polymer**  
Celik B., Celik I., Dolas H., Gorcay H., ŞAHİN Y., Sarac A. S. , PEKMEZ K.  
REACTIVE & FUNCTIONAL POLYMERS, vol.83, pp.107-112, 2014 (Journal Indexed in SCI)
- XX. **Voltammetric and electrochemical impedimetric behavior of silica-based gel electrolyte for valve-regulated lead-acid battery**  
Gencten M., Donmez K. B. , ŞAHİN Y., PEKMEZ K., Suvaci E.  
JOURNAL OF SOLID STATE ELECTROCHEMISTRY, vol.18, no.9, pp.2469-2479, 2014 (Journal Indexed in SCI)
- XXI. **The Under Potential Deposition of Cu on Au (111) in Nonaqueous Acetonitrile**  
PEKMEZ K., Avci E., Baumgaertel H. G. , Donner C.

ZEITSCHRIFT FUR PHYSIKALISCHE CHEMIE-INTERNATIONAL JOURNAL OF RESEARCH IN PHYSICAL CHEMISTRY & CHEMICAL PHYSICS, vol.226, pp.953-963, 2012 (Journal Indexed in SCI)

- XXII. **Amperometric enzyme electrode for glucose determination based on poly(pyrrole-2-aminobenzoic acid)**  
BERKCAN A., Seckin A. I. , PEKMEZ K., TAMER U.  
JOURNAL OF SOLID STATE ELECTROCHEMISTRY, vol.14, no.6, pp.975-980, 2010 (Journal Indexed in SCI)
- XXIII. **Synthesis of magnetic core-shell Fe<sub>3</sub>O<sub>4</sub>-Au nanoparticle for biomolecule immobilization and detection**  
TAMER U., Gundogdu Y., BOYACI İ. H. , PEKMEZ K.  
JOURNAL OF NANOPARTICLE RESEARCH, vol.12, no.4, pp.1187-1196, 2010 (Journal Indexed in SCI)
- XXIV. **The Substituent Effects on the Structure and Surface Morphology of Polyaniline**  
ŞAHİN M., Ozcan L., ÖZCAN A., Usta B., Sahin Y., PEKMEZ K.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.115, no.5, pp.3024-3030, 2010 (Journal Indexed in SCI)
- XXV. **Electrochemical synthesis and characterization of a new soluble conducting polymer**  
Udum Y. A. , Ergun Y., Sahin Y., PEKMEZ K., Yildiz A.  
JOURNAL OF MATERIALS SCIENCE, vol.44, no.12, pp.3148-3155, 2009 (Journal Indexed in SCI)
- XXVI. **Preparation and physical/electrochemical characterization of Pt/poly(vinylferrocenium) electrocatalyst for methanol oxidation**  
Celebi M. S. , PEKMEZ K., Oezyoeruek H., Yildiz A.  
JOURNAL OF POWER SOURCES, vol.183, no.1, pp.8-13, 2008 (Journal Indexed in SCI)
- XXVII. **Electrochemical synthesis of Pd particles on poly(vinylferrocenium)**  
Celebi M. S. , PEKMEZ K., Ozyoruk H., Yildiz A.  
CATALYSIS COMMUNICATIONS, vol.9, no.13, pp.2175-2178, 2008 (Journal Indexed in SCI)
- XXVIII. **Electrochemically generated catalyst system with increased specificity and efficiency for olefin metathesis**  
DÜZ B., PEKMEZ K., Imamoğlu Y., Süzer Ş., Yildiz A.  
Journal of Organometallic Chemistry, vol.684, pp.77-81, 2003 (Journal Indexed in SCI)
- XXIX. **Investigation of some parameters influencing electrocrystallisation of PbO<sub>2</sub>**  
ABACI S., PEKMEZ K., Hokelek T., YILDIZ A.  
JOURNAL OF POWER SOURCES, vol.88, no.2, pp.232-236, 2000 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **Electrooxidation of Formic Acid Using Pt Nanoparticles Supported on Conducting Poly(Vinylferrocene) Polymer Support**  
SÖNMEZ ÇELEBİ M., PEKMEZ K.  
Hacettepe Journal of Biology and Chemistry, vol.3, no.45, pp.351-358, 2017 (Other Refereed National Journals)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Electrochemical detection of thiosulfate in the presence of sulfate ion using stainless steel electrode modified by gold**  
ERTEKİN Z., PEKMEZ K., CAN N. M. , EKMEKÇİ Z.  
Flotation 19 CapeTown South Africa, 11 - 14 November 2019
- II. **One-step electrosynthesis of polypyrrole/PbO<sub>x</sub> composite in acetonitrile as supercapacitor electrode material**  
KARACA E., GÖKCEN D., ÖZÇİÇEK N., PEKMEZ K.  
Electrochemistry Conference 2019, İstanbul, Turkey, 11 - 13 September 2019
- III. **Memristive Property of TiO<sub>x</sub> Deposited by Catalyzed Anodization Process**

Gul E., GÖKCEN D., Senturk O., KARACA E., Özçiçek Pekmez N., PEKMEZ K.

6th Nano Today Conference, 16 - 20 June 2019

- IV. **Effect of pyridine carboxylic acids on electropolymerizations of pyrrole in acetonitrile**  
KIZILELMA D., PEKMEZ K.  
International Materials Science and Nanotechnology for Next Generation Conference, 4 - 06 October 2018
- V. **Solution Combustion Synthesis of Lithium Copper Pyrophosphate for Lithium-ion Batteries**  
ÖZER D., ERTEKİN Z., ALTUNTAŞ ÖZTAŞ N., PEKMEZ K.  
THE INTERNATINONAL CONFERENCE ON MATERIALS SCIENCE MECHANICAL AND AUTOMOTIVE ENGINEERINGS AND TECHNOLOGY IN ÇEŞME/İZMİR (IMSMATEC'18), 10 - 12 April 2018
- VI. **Use of EIS to investigate of adsorption of NaCN and Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub> on pyrite**  
ERTEKİN Z., EKMEKÇİ Z., PEKMEZ K.  
10th International Conference on Instrumental Methods of Analysis: Modern Trends and Applications, 17 - 21 September 2017
- VII. **Pirit Oksidasyonunun Elektrokimyasal Yöntemlerle İncelenmesi**  
ERTEKİN Z., PEKMEZ K., EKMEKÇİ Z.  
29. Ulusal Kimya Kongresi, Turkey, 10 - 14 September 2017
- VIII. **Galvanostatic deposition of polypyrrole on pencil graphite electrode in the presence of vanadyl tetrafluoroborate and Triton-X 100 for electrochemical supercapacitor**  
KARACA E., ÖZÇİÇEK N., PEKMEZ K.  
ISEE Cap 2017 5th International Symposium on Enhanced Electrochemical Capacitors, 10 - 14 July 2017
- IX. **Electrodeposition of Polypyrrole containing Manganous ions in Acetonitrile Solution on pencil graphite electrode for Electrochemical Supercapacitor**  
KARACA E., PEKMEZ K., ÖZÇİÇEK N.  
5th International Symposium on Enhanced Electrochemical Capacitors, 10 - 14 July 2017
- X. **Galvanostatic Deposition of Polypyrrole Cobalt Perchlorate on pencil graphite electrode in the presence of graphene for Electrochemical Supercapacitor**  
KARACA E., ÖZÇİÇEK N., PEKMEZ K.  
3rd Emerging 2D Materials & Graphene Conference from Laboratory to Industry 2016, İstanbul, Turkey, 20 - 21 November 2016
- XI. **Characterization of electrosynthesized coloured TiO<sub>x</sub> thin films electrodes**  
ERTEKİN Z., PEKMEZ K.  
67th Annual Meeting of the International Society of Electrochemistry, Hague, Netherlands, 21 - 26 August 2016, pp.136
- XII. **A simple method of TiO<sub>x</sub> thin film electrodeposition from basic titanyl sulfate solution**  
ERTEKİN Z., PEKMEZ K.  
11th International Symposium on Electrochemical Micro & Nanosystem Technologies (EMNT2016), Brüksel, Belgium, 17 - 19 August 2016, pp.102
- XIII. **Surface characterization of Pyrite using electrochemical techniques**  
ERTEKİN Z., PEKMEZ K., EKMEKÇİ Z.  
XIV. INTERNATIONAL MINERAL PROCESSING SYMPOSIUM AND EXHIBITION, IMPS 2014, İzmir, Turkey, 15 - 17 October 2014
- XIV. **Plant scale measurement of flotability of sulphide minerals by using EIS**  
BAĞCI TEKEŞ E., EKMEKÇİ Z., CAN N. M., PEKMEZ K.  
XIII. International Mineral Processing Symposium, 10 - 12 October 2012

## Supported Projects

ERTEKİN Z., PEKMEZ K., Uğur M., Karaca E., Project Supported by Higher Education Institutions, Farklı elektrot malzemeleri üzerinde titanyum sub-oksit ince filmlerinin asetonitril çözeltisinde elektrokimyasal olarak biriktirilmesi, 2017 - 2018

PEKMEZ K., Project Supported by Higher Education Institutions, Tümüyle Organik Katkılanmış İletken Polimer Bazlı Süperkapasitör Geliştirilmesi, 2017 - 2017

PEKMEZ K., Project Supported by Higher Education Institutions, Üçlü faz elektrokimyasal indirgeme sistemleri için metaloksit/metal/ karbon gaz difüzyon elektrodu geliştirilmesi., 2016 - 2016

PEKMEZ K., ERTEKİN Z., Project Supported by Higher Education Institutions, Bazik titanil sülfat çözeltisinden basit bir yöntemle TiO<sub>x</sub> ince film elektrokimyasal biriktirilmesi, 2016 - 2016

PEKMEZ K., ERTEKİN Z., Project Supported by Higher Education Institutions, 67inci uluslararası elektrokimya konferansına katılım, 2016 - 2016

PEKMEZ K., Project Supported by Higher Education Institutions, Elektrik enerjisi depolama amaçlı Mikro Redoks Akış Bataryaları için aktif madde araştırılması, 2015 - 2015

PEKMEZ K., ERTEKİN Z., Project Supported by Higher Education Institutions, Susuz ortamda TiO<sub>x</sub> filmlerinin elektrokimyasal olarak hazırlanması, karakterizasyonu ve fotovoltaj özelliklerinin incelenmesi, 2014 - 2015

PEKMEZ K., Industrial Thesis Project, Bilim San Tekn Bknlığı SANTEZ 00897 STZ 2011 1, 2011 - 2013

PEKMEZ K., TUBITAK Project, Hacettepe Ü Teknoloji Arş Uyg Dairesi Proje No 92 020 13, 1992 - 1994

PEKMEZ K., TUBITAK Project, TÜBİTAK TBAG 963, 1991 - 1993

## Citations

Total Citations (WOS):408

h-index (WOS):11