

## Prof. SEDAT ONDARAL

### Personal Information

**Office Phone:** [+90 462 377 1524](tel:+904623771524)

**Fax Phone:** [+90 462 325 7499](tel:+904623257499)

**Email:** [ondaral@ktu.edu.tr](mailto:ondaral@ktu.edu.tr)

**Web:** <https://avesis.ktu.edu.tr//ondaral>

### Education Information

Post Doctorate, Royal Institute of Technology, Fiber And Polymer Technology, Fiber Technology, Sweden 2008 - 2009  
Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Lif Ve Kağıt Teknolojisi Anabilim Dalı, Turkey 2001 - 2007

Post Graduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Lif Ve Kağıt Teknolojisi Anabilim Dalı, Turkey 1998 - 2001

Under Graduate, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, Turkey 1994 - 1998

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Suda Çözülebilir Çapraz Bağlı Polimerlerin Dispersiyon Polimerizasyonu İle Sentezi ve Kağıt Üretiminde Farklı Uygulamalardaki Performansları, Karadeniz Technical University, Orman Fakültesi, Ormın Endüstri Mühendisliği Bölümü, 2007

Post Graduate, Gazete Kağıdı Üretiminde Anyonik Poliakrilamidin Kırıntı Materyal tutunumu Üzerine Etkisi, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Lif Ve Kağıt Teknolojisi Anabilim Dalı, 2001

### Research Areas

Agricultural Sciences, Forestry, Forest Industry Engineering, Forest Products Chemistry and Technology, Forest Products Chemistry, Pulp (pulp), Paper and cardboard production technology, Paper surface coating, Paper packaging technology, Paper recycling, Chemical Engineering and Technology, Chemical Technologies, Polymer Technology, Metallurgical and Materials Engineering, Material science and engineering, Nanomaterials, Cellulosic Materials, Engineering and Technology

### Academic Titles / Tasks

Professor, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, 2019 - Continues

Associate Professor, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, 2012 - 2019

Assistant Professor, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, 2008 - 2012

Research Assistant PhD, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, 2007 - 2008

Research Assistant, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, 1999 - 2007

## Professional Experience

### Advising Theses

ONDARAL S., Nano ve Mikrofibril Selülozların Kağıt Üretiminde Kullanımı ve Kuartz Kristal Mikro Teraziler ile Adsorpsiyon Çalışmaları, Post Graduate, G.Hocaoğlu(Student), 2015

ONDARAL S., Biyopolielektrolit Komplekslerin Üretimi ve Kuru Sağlıklı Maddesi Olarak Kağıt Üretiminde Kullanımı, Post Graduate, M.Emin(Student), 2014

ONDARAL S., Kağıt Üretiminde Katyonik Poliakrilamid/Bentonit Esaslı Mikropartikül Kümelenme Sisteminin Dolgu Maddesi Tutunumu ve Süzülme Prosesindeki Etkinliği, Post Graduate, O.Çağlar(Student), 2010

### Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **The adsorption of phosphate-buffered saline to model films composed of nanofibrillated cellulose and gelatin**  
ONDARAL S., Celik E., Kurtulus O. C.  
JOURNAL OF APPLIED BIOMATERIALS & FUNCTIONAL MATERIALS, vol.17, 2019 (Journal Indexed in SCI)
- II. **Chitosan adsorption on nanofibrillated cellulose with different aldehyde content and interaction with phosphate buffered saline**  
ONDARAL S., Celik E., Kurtulus O. C. , AŞIKUZUN E., Yakin I.  
CARBOHYDRATE POLYMERS, vol.186, pp.192-199, 2018 (Journal Indexed in SCI)
- III. **Aldehyde Starch Complexes: Adsorption on Cellulose Model Film and Performance as a Strength Additive for Papermaking**  
ONDARAL S., Kurtulus O. C. , Ozturk G., Ergun M. E. , Yakin I.  
BIORESOURCES, vol.13, pp.4470-4483, 2018 (Journal Indexed in SCI)
- IV. **Adsorption of Xyloglucan onto Cellulose Surfaces of Different Morphologies: An Entropy-Driven Process**  
Benselfelt T., Cranston E. D. , ONDARAL S., Johansson E., Brumer H., Rutland M. W. , Wagberg L.  
BIOMACROMOLECULES, vol.17, pp.2801-2811, 2016 (Journal Indexed in SCI)
- V. **Cationic And Anionic Nanofibrillated Celluloses As Dry Strength Additives For Papermaking**  
ONDARAL S., Hocaoglu G., Ergun M. E.  
CELLULOSE CHEMISTRY AND TECHNOLOGY, vol.49, pp.617-623, 2015 (Journal Indexed in SCI)
- VI. **CATIONIC AND ANIONIC NANOFIBRILLATED CELLULOSES AS DRY STRENGTH ADDITIVES FOR PAPERMAKING**  
ONDARAL S., Hocaoglu G., Ergun M. E.  
CELLULOSE CHEMISTRY AND TECHNOLOGY, vol.49, pp.617-623, 2015 (Journal Indexed in SCI)
- VII. **The efficiency of tannin as a formaldehyde scavenger chemical in medium density fiberboard**  
Boran S., USTA M., ONDARAL S., GÜMÜŞKAYA E.  
COMPOSITES PART B-ENGINEERING, vol.43, pp.2487-2491, 2012 (Journal Indexed in SCI)
- VIII. **Effect of fiber modification with carboxymethyl cellulose on the efficiency of a microparticle flocculation system**  
ONDARAL S., Kurtulus O. C. , USTA M.  
CHEMICAL PAPERS, vol.65, pp.16-22, 2011 (Journal Indexed in SCI)
- IX. **Effects of Dissolved Organic Compounds and Electrolyte on Precipitated Calcium Carbonate Retention in Papermaking**  
ONDARAL S., USTA M.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.49, pp.12185-12190, 2010 (Journal Indexed in SCI)
- X. **Using jet mixing to prepare polyelectrolyte complexes: Complex properties and their interaction with silicon oxide surfaces**

- Ankerfors C., ONDARAL S., Wagberg L., Odberg L.  
JOURNAL OF COLLOID AND INTERFACE SCIENCE, vol.351, pp.88-95, 2010 (Journal Indexed in SCI)
- XI. **Surface-Induced Rearrangement of Polyelectrolyte Complexes: Influence of Complex Composition on Adsorbed Layer Properties**  
ONDARAL S., Ankerfors C., Odberg L., Wagberg L.  
LANGMUIR, vol.26, pp.14606-14614, 2010 (Journal Indexed in SCI)
- XII. **The Synthesis of Water Soluble Cationic Microgels by Dispersion Polymerization: Their Performance in Kaolin Deposition Onto Fiber**  
ONDARAL S., USTA M., GÜMÜŞDERELİOĞLU M., ARSU N., Balta D. K.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.116, pp.1157-1164, 2010 (Journal Indexed in SCI)
- XIII. **Adsorption of xyloglucan on the smooth celluloses films with different crystallinity**  
Wagberg L., Ondaral S., Brumer H.  
ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY, vol.239, 2010 (Journal Indexed in SCI)
- XIV. **Termite Resistance of MDF Panels Treated with Various Boron Compounds**  
USTA M., USTAÖMER D., Kartal S. N. , ONDARAL S.  
INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES, vol.10, pp.2789-2797, 2009 (Journal Indexed in SCI)
- XV. **Fixation of dissolved and colloidal substances on fibres and silicon oxide surfaces using water soluble cross-linked cationic polymers**  
ONDARAL S., USTA M., Wagberg L., Gümüşderelioğlu M., ONDARAL M.  
CELLULOSE CHEMISTRY AND TECHNOLOGY, vol.42, pp.61-69, 2008 (Journal Indexed in SCI)
- XVI. **FIXATION OF DISSOLVED AND COLLOIDAL SUBSTANCES ON FIBERS AND SILICON OXIDE SURFACES USING WATER SOLUBLE CROSSLINKED CATIONIC POLYMERS**  
ONDARAL S., USTA M., Wagberg L., GÜMÜŞDERELİOĞLU M., ONDARAL M.  
CELLULOSE CHEMISTRY AND TECHNOLOGY, vol.42, pp.61-69, 2008 (Journal Indexed in SCI)
- XVII. **Comparative Properties of Pulp and Paper Obtained From Kraft-ethanol and Kraft-Ethylene Glycol Properties**  
USTA M., BORAN S., GÜMÜŞKAYA E., ONDARAL S., BALABAN M.  
CELLULOSE CHEMISTRY AND TECHNOLOGY, vol.41, pp.313-320, 2007 (Journal Indexed in SCI)
- XVIII. **Comparative properties of the pulp and paper obtained from kraft-ethanol and kraft-ethylene glycol processes**  
USTA M., Boran S., GÜMÜŞKAYA E., ONDARAL S., Balaban M.  
CELLULOSE CHEMISTRY AND TECHNOLOGY, vol.41, pp.311-318, 2007 (Journal Indexed in SCI)
- XIX. **Hyperbranched polymers as a fixing agent for dissolved and colloidal substances on fiber and SiO<sub>2</sub> surfaces**  
Wagberg L., Ondaral S., Enarsson L.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.46, pp.2212-2219, 2007 (Journal Indexed in SCI)
- XX. **The adsorption of hyperbranched polymers on silicon oxide surfaces**  
Ondaral S., Wagberg L., Enarsson L.  
JOURNAL OF COLLOID AND INTERFACE SCIENCE, vol.301, pp.32-39, 2006 (Journal Indexed in SCI)
- XXI. **The Effects of Oxygen and Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) on the Crystalline Structure of Cellulose During Soda Pulping**  
GÜMÜŞKAYA E., USTA M., ODABAŞ SERİN Z., ONDARAL S., USTAÖMER D.  
CELLULOSE CHEMISTRY AND TECHNOLOGY, vol.40, pp.259-264, 2006 (Journal Indexed in SCI)
- XXII. **The effects of oxygen and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) on the crystalline structure of cellulose during soda pulping**  
Guemueskaya E., usta M. U. , Serin Z. O. , Ondaral S., Ustaoemer D.  
CELLULOSE CHEMISTRY AND TECHNOLOGY, vol.40, pp.259-264, 2006 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **PLS Kontrol Ünitesi İlaveli Presle Farklı Pres Şartları Altında Üretilen MDF'lerin Bazı Fiziksel ve Mekanik Özellikleri**  
BORAN S., USTA M., ONDARAL S.  
Bartın Üniversitesi Orman Fakültesi Dergisi, vol.1, pp.278-287, 2009 (National Refreed University Journal)
- II. **The Performance of Anionic Polyacrylamide as A Retention Aid in Newsprint Production**  
ONDARAL S.  
Kafkas Üniversitesi, Artvin Orman Fakültesi Dergisi, vol.1, pp.24-30, 2004 (National Refreed University Journal)
- III. **Buğday (Triticum aestivum L.) Sapı Soda-Oksijen Kağıt Hamurunun Kimyasal ve Kristal Yapısı ile optik Özellikleri Arasındaki İlişkiler**  
GÜMÜŞKAYA E., Serin Z., ONDARAL S., USTAÖMER D.  
Kafkas Üniversitesi - Artvin Orman Fakültesi Dergisi, vol.1, pp.14-20, 2003 (National Refreed University Journal)
- IV. **Buğday (Triticum aestivum L.) Sapı Soda-Oksijen Kağıt Hamurunun Kimyasal ve Kristal Yapısı ile Optik Özellikleri Arasındaki İlişkiler**  
GÜMÜŞKAYA E., Serin Z., Ondaral S., Ustaömer D.  
Kafkas Üniversitesi Artvin Orman Fakültesi Dergisi, vol.4, pp.14-21, 2003 (National Refreed University Journal)

### **Refereed Congress / Symposium Publications in Proceedings**

- I. **The History of Papermaking Industry in Turkey: Past, Today, and Future**  
ONDARAL S.  
GeTID&teh 2017, Travnik, Bosnia And Herzegovina, 20 - 22 November 2017, pp.2
- II. **Studies on biopolymeric additives for papermaking**  
ONDARAL S.  
GeTID&teh 2017, Travnik, Bosnia And Herzegovina, 20 - 22 November 2017, pp.1
- III. **Studies on Biopolymeric Additives for Papermaking**  
ONDARAL S.  
XXII INTERNATIONAL SYPOSIUM IN THE FIELD OF PULP, PAPER, PACKAGING AND GRAPHICS, Zlatibor, Serbia And Montenegro, 13 - 16 June 2017, pp.69-78
- IV. **Production of Nanofibrillated Cellulose Based Aerogels**  
Kurtuluş O. Ç. , ONDARAL S., Hocaoğlu G.  
1st International Academic Research Symposium, Antalya, Turkey, 3 - 05 November 2016, pp.3231-3237
- V. **Biopolyelectrolyte Complexes As A Paper Strength Additive**  
ONDARAL S., Ergün M. E. , Hocaoğlu G., Kurtuluş O. Ç. , DEMİR C., USTA M.  
20th INTERNATIONAL SYMPOSIUM IN THE FIELDS OF PULP, PAPER, PACKAGING AND GRAPHICS, Zlatibor, Serbia And Montenegro, 16 - 19 June 2015, pp.30-35
- VI. **Surface Sizing Of Paper With Silica/Paraffin Mixture**  
ONDARAL M., USTA M., Kurtuluş O. Ç. , ONDARAL S.  
20th INTERNATIONAL SYMPOSIUM IN THE FIELDS OF PULP, PAPER, PACKAGING AND GRAPHICS, Zlatibor, Serbia And Montenegro, 16 - 19 June 2015, pp.15-20
- VII. **Water Soluble Cationic Microgel: Their Potential Applications In Papermaking**  
USTA M., ONDARAL S.  
20 INTERNATIONAL SYMPOSIUM IN THE FIELDS OF PULP, PAPER, PACKAGING AND GRAPHICS, Zlatibor, Serbia And Montenegro, 16 - 19 June 2015, pp.20-24
- VIII. **The use of biopolyelectrolyte complexes in papermaking**  
ONDARAL S., Ergün M. E. , Hocaoğlu G.  
7th International Symposium on ADVANCED TECHNOLOGIES FOR THE PULP, PAPER AND CORRUGATED BOARD INDUSTRY, Brasov, Romania, 3 - 06 September 2013, pp.10-15
- IX. **Nanofibrillated cellulose production and modification**  
ONDARAL S., Hocaoğlu G., Ergün M. E.  
9th Nanoscience and Nanotechnology Conference, Erzurum, Turkey, 24 - 28 June 2013, pp.24-28

- X. **Biopolymer complexes from chitosan and carboxymethyl cellulose**  
Ergün M. E. , Hocaoğlu G., DEMİR C., ONDARAL S.  
9th Nanoscience and Nanotechnology Conference, Erzurum, Turkey, 24 - 28 June 2013, pp.5-10
- XI. **Starch-based biopolymer complexes as dry strength additive**  
Ergün M. E. , Hocaoğlu G., Kurtuluş O. Ç. , DEMİR C., ONDARAL S.  
3rd International Advances in Applied Physics and Materials Science Congress, Antalya, Turkey, 24 - 28 April 2013, pp.36-38
- XII. **Production of Anionic and Cationic Nanofibrillated celluloses: Adsorption Studies with Quartz Crystal Microbalance with Dissipation (QCM-D)**  
Hocaoğlu G., Ergün M. E. , ONDARAL S.  
3rd International Advances in Applied Physics and Materials Science Congress, Antalya, Turkey, 24 - 28 April 2013, pp.40-45
- XIII. **The Adsorption and Conformational Properties of Polyelectrolyte Complexes on the Oppositely Charged Surface**  
ONDARAL S., Ankerfors C., Wagberg L.  
6. Nanoscience and Nanotechnology Conference, İzmir, Turkey, 15 - 18 June 2010, pp.45-48
- XIV. **Adsorption of xyloglucan on model cellulose surfaces: Influence of cellulose crystallinity and molecular mass of the XG**  
Wagberg L., ONDARAL S., Brumer H.  
239th ACS National Meeting, San Francisco, United States Of America, 21 - 25 March 2010, pp.60-65
- XV. **PLS kontrol Ünitesi İlaveli Presle Farklı Pres Şartları Altında Üretilen MDF'lerin Bazı Fiziksel ve Mekanik Özellikleri**  
BORAN S., USTA M., ONDARAL S.  
. Ulusal Batı Karadeniz Ormancılık Kongresi, Bartın, Turkey, 5 - 07 November 2009, pp.15-20
- XVI. **Adsorption of polyelectrolyte complexes to fibres and model surfaces and their influence on joint strength**  
Ankerfors C., ONDARAL S., Ödberg L., Wagberg L., Carlen J., Persson M.  
7TH INTERNATIONAL Paper and Coating Chemistry Symposium, Hamilton, Canada, 10 - 12 June 2009, pp.55-60
- XVII. **The synthesis of water soluble cross-linked polymers by dispersion polymerization**  
ONDARAL S., USTA M., Gümüşderelioğlu M., Wagberg L.  
Nordic Polymer Days, Stockholm, Sweden, 11 - 13 May 2008, pp.45-50
- XVIII. **Nötrül Kağıt Üretiminde Kolofan Yapıştırması**  
ONDARAL S., BORAN S., USTA M.  
1st International Non-wood Forest Products Symposium, Trabzon, Turkey, 1 - 04 November 2006, pp.75-79
- XIX. **Rosin Sizing Under Neutral Papermaking Conditions**  
ONDARAL S., BORAN S., USTA M.  
1st International Non-wood Forest Products Symposium, Trabzon, Turkey, 1 - 04 November 2006, pp.10-15
- XX. **Adsorption of Well-Characterised polyDiAllylDiMethylAmmoniumChloride (DADMAC) onto SiO<sub>2</sub> Surfaces From Water**  
Wagberg L., Bo A., ENARSSON L., Larsson T., ONDARAL S.  
6th International Symposium on Polyelectrolytes, Dresden, Germany, 4 - 08 September 2006, pp.50-54
- XXI. **The Fixation of Dissolved and Colloidal Substances on Fiber and Silicon Oxide Surfaces with Cross-Linked Poly(AM-co-DADMAC) Prepared by Dispersion Polymerization**  
ONDARAL S., USTA M., Gümüşderelioğlu M., Wagberg L.  
12th Meeting of the Pulp and Paper Industry of Southeast European countries, Brasov, Romania, 21 - 23 September 2005, pp.45-50
- XXII. **Renkli kağıt üretim prosesleri ve spektrofotometrik yöntemle kağıt renginin belirlenmesi**  
ONDARAL S., USTAÖMER D., Yel H.  
V.Ulusal Orman Fakülteleri Öğrenci Kongresi, Trabzon, Turkey, 29 April - 01 May 2004, pp.15-20
- XXIII. **The Effects of White-Water System Closure on Efficiency of Retention Systems**  
ONDARAL S., SERİN Z., GÜMÜŞKAYA E.

- XXXI. International Forestry Students Symposium, İstanbul, Turkey, 1 - 15 October 2003, pp.327-335
- XXIV. **A review of The Chemical Composition of Different Softwoods, Hardwoods and Agricultural Residues**  
SERİN Z., GÜMÜŞKAYA E., ONDARAL S.  
XXXI. International Forestry Students Symposium, İstanbul, Turkey, 1 - 15 October 2003, pp.348-359
- XXV. **The Fine Structure of Cellulose in Hemp (Cannabis sativa L.) Bast Fibers During Organosolv Pulping**  
USTA M., GÜMÜŞKAYA E., SERİN Z., ONDARAL S.  
13th International Symposium on Cellulose Chemistry and Technology, Iasi, Romania, 3 - 05 September 2003, pp.124-130
- XXVI. **The Fine Structure of Cellulose in Hemp (Cannabis sativa L.) Bast Fibers During Organosolv Pulping**  
USTA M., GÜMÜŞKAYA E., Serin Z., ONDARAL S.  
13th International Symposium on Cellulose Chemistry and Technology, Iasi, Romania, 3 - 05 September 2003, pp.5-10
- XXVII. **The Effects of Various Stock Preparation Conditions on The Adsorption of Dye on Pulp Fiber**  
ONDARAL S., Ertaş M., USTAÖMER D.  
XXXI International Forestry Students Symposium, İstanbul, Turkey, 1 - 15 September 2003, pp.16-20
- XXVIII. **The Effects of White-Water System Closure on The Efficiency of Retention Systems**  
ONDARAL S., Serin Z., GÜMÜŞKAYA E.  
International Forestry Students Symposium, İstanbul, Turkey, 1 - 15 September 2003, pp.20-25
- XXIX. **The Importance of Swelling for Papermaking**  
USTAÖMER D., Serin Z., ONDARAL S.  
XXXI International Forestry Students Symposium, İstanbul, Turkey, 1 - 15 September 2003, pp.25-30

## Other Publications

- I. **Nanofibrillated Cellulose for Papermaking**  
Kurtuluş O. Ç. , ONDARAL S., Hocaoğlu G.  
Other, pp.10-15, 2015
- II. **Polyelectrolyte Complex And Layer By Layer Technique Of Starches**  
ONDARAL S., Ergün M. E. , Hocaoğlu G., ERSOY KALYONCU E.  
Presentation, pp.10-13, 2015
- III. **Cationic And Anionic Nanofibrillated Celluloses For Papermaking**  
Hocaoğlu G., ONDARAL S.  
Presentation, pp.35-40, 2015
- IV. **Carboxymethylation as a Pretreatment of Nanofibrillated Cellulose**  
Kurtuluş O. Ç. , ONDARAL S., Hocaoğlu G.  
Presentation, pp.10-15, 2015
- V. **Cationic And Anionic Nanofibrillated Celluloses For Papermaking**  
ONDARAL S., Hocaoğlu G.  
Presentation, pp.15-20, 2015

## Supported Projects

- ONDARAL S., TUBITAK Project, Kağıt Sektörü İçin Aldehit Uç Gruplu Mukavemet Arttırıcı Polimerlerin Geliştirilmesi, 2017 - Continues
- ONDARAL S., TUBITAK Project, • The use of ethyl acetate (CH<sub>3</sub>COOCH<sub>2</sub>CH<sub>3</sub>) and ethyl lactate (CH<sub>3</sub>CHOHCOOC<sub>2</sub>H<sub>5</sub>) with different catalysts in production of cellulose acetate, 2015 - 2017
- ONDARAL S., TUBITAK Project, Sinerjik Etkili Alkil Ketendimer Dispersiyonlarının Yerli Yardımcı Kimyasal Maddeler İle Üretimi, 2014 - 2016
- ONDARAL S., GÜMÜŞKAYA E., TUBITAK Project, Biyopolielektrolit Komplekslerin Üretimi: Adsorpsiyon Özelliklerinin ve

Kağıt Üretiminde Bağlayıcı Olarak Performanslarının Araştırılması, 2011 - 2013

## **Scientific Research / Working Group Memberships**

COSTFP1105, EU Framework Programme, Switzerland, [http://www.cost.eu/COST\\_Actions/fps/Actions/FP1105](http://www.cost.eu/COST_Actions/fps/Actions/FP1105), 2012 - 2016

COSTFP1003, EU Framework Programme, Switzerland, <http://www.action-fp1003.eu/>, 2011 - 2015

## **Citations**

Total Citations (WOS):152

h-index (WOS):8