CONTACT

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Seid Reza Falsafi

- **Assistant Professor,**
  Dezful Agricultural Research Institute, Dezful, Iran
- **Editorial Board Member**, Food and Humanity (Elsevier)
- **Associate Editor:** Future Post-harvest and Food (Wiley)
- **Lead Editor of Elsevier Books**:
  - Non-thermal Processing of Food macromolecules
  - Electrospinning of food bioactive compounds

Interests: Developing novel foods, Functional foods, Food Hydrocolloids, Food Nanotechnology, Emerging Non-thermal processing approaches, Emulsion, Encapsulation, Starch, Cereals

MILESTONES

2022-present, Assistant Professor
- Safiabad Agricultural Research Institute, Dezful
- Published around 52 book chapters and Papers in top Q1 Journals
- Has received around 15 research found
- Honored with seven prestigious awards across multiple categories by the Iran National Elite Foundation.
- Current Projects: developing functional yogurt and cheese from water-buffalo milk.

2019-2021, Transition to Industry, Quality Control Manager,
- Pegah Dairy Industries, QC manager, R&D main consultant
- Responsible for performing sensorial attribute tests on new products

2018-2019, Transition to Industry, Production Manager,
- Starch refining industry, Production manager
- R&D supervisor

2017-2018, Post-Doctoral Fellow
- Isfahan University of Medical Sciences

2014– 2018, Ph.D.
Gorgan University of agricultural sciences and natural resources
- Food science and technology, GPA: 18.90/20 (With Honors)
- Chemical and physical modification of nature inspired biopolymers (specifically Starch)
- Preparation of starch nanoparticles and their application as stabilizers of Pickering emulsions.
- Application of various emulsification strategies and their potential in producing β-carotene loaded atomized nanostructures.
- Preparation of starches resistant to digestion through chemical and physical models.
- Physicochemical, digestibility and clinical effect of resistant starch type 3 and 4 prepared with ultrasound and its application in cereal based products
- Application of modified starches as dietary supplements into cereal based products
- Performing in-vitro and in-vivo experiments for characterization of modified starches and starch based products.
- Outcome: High quality publications, applicable results.

2011 – 2013, M.Sc.
Shiraz university
- Food science and technology. GPA: 17.11/20 (With Honors)
- Thesis: Physical and chemical modification of starches extracted from various sources and investigating their behaviors during different thermal processing.

RESEARCH EXPERIENCE

- **PhD Researcher** | **Gorgan university of agricultural sciences and natural resources**
  - Investigated the impact of various non-thermal processing on physicochemical properties of starches extracted from different sources.
  - Utilized different analytical and instrumental methods including **DSC**, **TGA**, **XRD**, **FT-IR**, **SEM**. **AFM** and **HPGPC** to investigate the attributes of various natural Food Hydrocolloids.
  - Designed and characterized **nanostructures** prepared through various **emulsification** strategies.
  - Application of Natural Food Hydrocolloids in designing bioactive delivery systems through different approaches i.e., emulsification, electrospinning, electrospraying, etc.
  - Initiated, designed, and executed an independent project, deeply evaluating the influence of sonication on physicochemical, morphological and molecular properties of oat starch.
  - Produced type 3 resistant starches through conventional method and novel method (ultrasound assisted) and optimized their production procedure both with software and at lab scale.
  - Developed type 4 resistant starch under ultrasound condition and comprehensively characterized its attributes mainly including its **in-vitro and in-vivo** digestion.
  - Investigated the clinical effects of the produced resistant starches through their incorporation into the **Wistar rat** diets.
  - Assessed the incorporation of type 3 and 4 resistant starches into the formulation of various foods in order to produce functional products.
  - Developed protocol for and mentored 2 M.Sc. students
  - Assessed the application of starch as a cutting-edge natural biopolymer for encapsulation of bioactive agents.
  - Investigated the potential of different modified starch as a stabilizer for production of bioactive loaded Pickering emulsions.

RESEARCH INTERESTS

- Physical and Chemical modification of nature inspired biopolymers under novel conditions and their further application as stabilizers of emulsions, and/or as novel carriers for bioactive delivery systems.
- Investigating the behavior of biopolymers extracted from new sources and their modification and characterization.
- Investigating the impact of different novel thermal and non-thermal processing treatments on the physicochemical, rheological, morphological and structural attributes of biopolymers.
- Investigating the attributes of polysaccharide-protein complexes.

PUBLICATIONS

Title	Journal/Publisher	Authors
Preparation of physically modified oat starch with different sonication treatments. DOI: doi.org/10.1016/j.foodhyd.2018.10.046	***Food Hydrocolloids*** **Q1** **IF: 11.53**	**Falsafi**, Maghsoudlou, Rostamabadi, Hamedi, Hosseini
Morphology and microstructural analysis of bioactive-loaded micro/nanocarriers via microscopy techniques; CLSM/SEM/TEM/AFM. DOI: doi.org/10.1016/j.cis.2020.102166	***Advances in Colloid and Interface Science*** **Q1** **IF: 15.36**	**Falsafi**, Rostamabadi, Assadpour, & Jafari
Physicochemical and morphological properties of resistant starch type 4 prepared under ultrasound and conventional conditions and their in-vitro and in-vivo digestibilities, 2019. DOI: doi.org/10.1016/j.ultsonch.2018.12.039	***Ultrasonic sonochemistry*** **Q1** **IF: 9.49**	**Falsafi**, Maghsoudlou, Aalami, Jafari, Raisie
Lycopene nanodelivery systems; preparation, characterization, and applications DOI: 10.1016/j.carbpol.2022.119761	***Trends in Food Science & Technology*** **Q1** **IF: 16.06**	**Falsafi** , Rostamabadi, Babazadeh, Tarhan, Rashidinejad
The role of emulsification strategy on the electrospinning of β-carotene-loaded emulsions stabilized by gum Arabic and whey protein isolate DOI: 10.1016/j.foodchem.2021.131826	***Food Chemistry***/ **Q1** **IF: 9.51**	**Falsafi**, Nishinari, Rostamabadi, Amani, Jafari
Protein-polysaccharide interactions for the fabrication of bioactive loaded nanocarriers DOI: 10.1016/j.phrs.2022.106164	***Pharmacological research*** **Q1** **IF: 10.57**	**Falsafi**, Rostamabadi, Samborska, Mirarab, Rashidinejad Jafari,
Insights into whey protein-based carriers for targeted delivery and controlled release of bioactive components DOI: 10.1016/j.foodhyd.2022.108002	***Food Hydrocolloids*** **Q1** **IF: 11.53**	**Falsafi**; Can Karaca; Deng; Wang; Li; Askari; Rostamabadi
Ovalbumin, an outstanding food hydrocolloid: Applications, technofunctional attributes, and nutritional facts, A systematic review	***Food Hydrocolloids*** **Q1** **IF: 11.53**	Rostamabadi**,** Thiramdus**,** Karaka, Novaka, Sharma, Rohit, Wang, Min, **Falsafi***
Application of multiple criteria decision making for optimizing the formulation of functional cookies containing different types of resistant starches: a physicochemical, organoleptic, in-vitro and in-vivo study DOI: 10.1016/j.foodchem.2022.133376	***Food Chemistry*** **Q1** **IF: 9.51**	**Falsafi**, Maghsoudlou, Aalami, Jafari, Raisie
Advanced encapsulation approaches for improving oral bioavailability and controlled release of food protein hydrolysates: Current landscape and future trends DOI:	***Food Chemistry***/ Under review **Q1** **IF: 9.51**	**Falsafi**, Bangar, Trif, Samborska, Barańska, Aaliya; Sunooj, Tomas, Capanoglu, Jafari, Rostamabadi
Oat starch- how physical and chemical modifications affect the physicochemical attributes and digestibility? DOI: 10.1016/j.carbpol.2022.119931	***Carbohydrate polymers***, **Q1; IF: 10.74**	**Falsafi**, Karaka, Novaka, Sunuj, Basheer, Rostamabadi
X-ray diffraction (XRD) of nanoencapsulated food ingredients.	**In book:** In *Characterization of*	**Falsafi**, Rostamabadi, & Jafari

DOI: doi.org/10.1016/B978-0-12-815667-4.00009-2	*Nanoencapsulated Food Ingredients.*	
High hydrostatic pressure approach for modification of polysaccharides; recent advances and innovations	***Food Hydrocolloids*** **Q1** **IF: 11.53**	**Faslafi,** Karaka, Novaka, Sharma, Rohit, Wang, Min, Rostamabadi
How non-thermal processing treatments affect physicochemical and structural attributes of tuber and root starches? DOI: 10.1016/j.tifs.2022.08.009	***Trends in Food Science & Technology*** **Q1; IF: 16.06**	Rostamabadi**,** Thiramdus**,** Karaka, Novaka, Sharma, Rohit, Wang, Min, **Falsafi***
Encapsulation of sensitive bioactives in electrosprayed κ-carrageenan nanoparticles; In vitro release and stability DOI: 10.1016/j.carbpol.2022.119761	***Carbohydrate polymers***, **Q1; IF: 10.74**	Fani, Enayati, Rostamabadi, **Falsafi**
Advanced delivery of bioactive molecules via prebiotic and dietary fiber-based polymers DOI: 10.1016/j.carbpol.2022.120074	***Carbohydrate polymers***, **Q1; IF: 10.74**	**Falsafi**; Can Karaca; Deng; Wang; Li; Askari; Rostamabadi
Nanoencapsulation of carotenoids within lipid-based nanocarriers. DOI: doi.org/10.1016/j.jconrel.2019.02.005	***Journal of controlled release*** **Q1** **IF: 11.47**	Rostamabadi, **Falsafi**, & Jafari
Bixin-loaded colloidal nanodelivery systems, techniques and applications	***Food Chemistry*** **Q1** **IF: 9.51**	Enayati, rezai, **Falsafi**, et al.,
Starch-based nanocarriers as cutting-edge natural cargos for nutraceutical delivery. DOI: doi.org/10.1016/j.tifs.2019.04.004	***Trends in Food Science & Technology*** **Q1; IF: 16.06**	Rostamabadi, **Falsafi**, & Jafari
Seed gum-based delivery systems and their application in encapsulation of bioactive molecules DOI: 10.1080/10408398.2022.2076065	***Critical Reviews in Food Science and Nutrition*** **Q1; IF: 11.44**	Rostamabadi, **Falsafi**, Nishinari, Rostamabadi
Electrospinning approach for nanoencapsulation of bioactive compounds; recent advances and innovations. DOI: doi.org/10.1016/j.tifs.2020.04.012	***Trends in Food Science & Technology*** **Q1** **IF: 16.06**	Rostamabadi, Assadpour, Tabarestani, **Falsafi**, & Jafari
Evaluating the structural properties of bioactive-loaded nanocarriers with cutting edge analytical tools DOI: doi.org/10.1111/1541-4337.12653	***Comprehensive Reviews in Food Science and Food Safety*** **Q1** **IF: 15.81**	Rostamabadi, **Falsafi**, Assadpour, Jafari
How single, double and multiple modifications change starch digestibility?	***Carbohydrate polymers***	Rostamabadi,.., Falsafi*
Starch modification through its combination with other molecules: Gums, Mucilages, Polyphenols and Salts	***Carbohydrate polymers***	Rostamabadi,.., Falsafi*
How novel ionizing and nonionizing radiations change physicochemical, technofunctional and nutritional attributes of starch?	***Food chemistry***	Rostamabadi,.., Falsafi*
Natural biomaterials for delivery of anticancer bioactives Doi:	***Advanced Fuctional Matereials*** **Q1** **IF: 19.92**	**Falsafi**, Bangar, Trif, Samborska, Barańska, Aaliya; Sunooj, Tomas,

		Capanoglu, Jafari, Rostamabadi
Electrospraying as a novel process for the synthesis of particles/nanoparticles loaded with poorly water-soluble bioactive molecules DOI: doi.org/10.1016/j.cis.2021.102384	***Advances in Colloid and Interface Science*** **Q1** **IF: 15.38**	Rostamabadi, **Falsafi**, Assadpour, & Jafari
Green biopolymers from by-products as wall materials for spray drying microencapsulation of phytochemicals DOI: doi.org/10.10.1016/j.tifs.2021.01.008	***Trends in Food Science & Technology*** **Q1** **IF: 16.06**	Samborska, Boostani, Geranpour, Hosseini, Dima, Khoshnoudi-Nia, Rostamabadi, **Falsafi**, Jafaric
Nano-helices of amylose for encapsulation of food ingredients. DOI: doi.org/10.1016/B978-0-12-815663-6.00016-1	**In book:** *Biopolymer nanostructures for food encapsulation purposes, Academic press*	Rostamabadi, **Falsafi**, & Jafari
Nanostructures of starch for encapsulation of food ingredients. DOI: doi.org/10.1016/B978-0-12-815663-6.00015-X	**In book:** *Biopolymer nanostructures for food encapsulation purposes.* Academic Press.	Rostamabadi, **Falsafi**, & Jafari
Transmission electron microscopy (TEM) of nanoencapsulated food ingredients. DOI: doi.org/10.1016/B978-0-12-815667-4.00002-X	**In book:** *Characterization of Nanoencapsulated Food Ingredients*. Academic Press.	Rostamabadi, **Falsafi**, & Jafari
Design and formulation of nano/micro-encapsulated natural bioactive compounds for food applications DOI: 10.1016/B978-0-12-815726-8.00001-5	**In book:** Biopolymer Nanostructures for Food Encapsulation Purposes 1st Edition	Rostamabadi, **Falsafi**, Boostani, Katouzian, Atefeh Rezaei, Assadpour, and Jafari
Covalent and Electrostatic Protein-Polysaccharide Systems for Encapsulation of Nutraceuticals DOI: doi.org/10.1016/B978-0-12-819724-0.00055-0	**In book:** *Reference Module in Materials Science and Materials Engineering* Academic Press.	Rostamabadi, **Falsafi**, & Jafari
Possible health risks associated with nanostructures in food DOI: doi.org/10.1016/B978-0-12-815725-1.00002-1	**In book:** Safety and Regulatory Issues of Nanoencapsulated Food Ingredients	Rezaei, Daeihamed, Capanoglu, Rostamabadi**, Falsafi** & Jafari
Design and formulation of nano/micro-encapsulated natural bioactive compounds for food applications DOI: doi.org/10.1016/B978-0-12-815726-8.00001-5	**In book:** *Application of Nano/Microencapsulated Ingredients in Food Products.* Academic Press.	Rostamabadi**, Falsafi**, Boostani, Katouzian, Rezaei, Assadpour, Jafari
Effect of sonication on physical, chemical and functional properties of oat starch DOI: doi.org/10.22069/EJFPP.2020.14426.1462	***Journal of Food Processing and Preservation***	Maghsoudlou, **Falsafi**, Rostamabadi

BOOK EDITING

- **Editor of two Elsevier book which are going to be published in 2024:**
  - Non-thermal processing of major food macromolecules
  - Electrospinning and Electrospraying Encapsulation of Food Bioactive Compounds

PRESENTATIONS

- Presented at food science and technology department to over 20-50+ attendees.
  - Food Nanotechnology: current state and future trends
  - Changes in food biopolymers under novel processing treatments.
  - Resistant starches: production, characterization, food application.
  - Starch based coatings and films.

TEACHING EXPERIENCES

- Quality control
- Postharvest technology
- Statistical analysis for food science and technology students
- Advisor of several MSc thesis

WORK EXPERIENCES

- QC/QA deputy director: Iran dairy industries, Pegah.
- Production supervisor/manager: Golshahd Co. production of starch/glucose/fructose through corn wet milling.
- Head of laboratories (food chemistry and microbiology): Partak Labratories, Partner of Iran Standard Organization
- QA manager: Niksa Design and development company