

GOOD YEAR

# The Goodyear Tire & Rubber Company

AKRON 16, OHIO

*Am*  
~~Richard~~  
~~Costello~~

Jan. 19, 1967

Professor Giulio Natta  
 Ist. Chim. Ind. del Politecnico  
 Piazza Leonardo da Vinci, 32  
 Milano, Italia

Dear Professor Natta:

I would like to express my appreciation to you for the opportunity of having spent the last 14 months at your Institute. Unfortunately, since I left Italy during the holiday season, I was unable to thank you personally for this wonderful experience.

In addition, I am deeply indebted to Prof. Porri and the people in his laboratory for making my stay such a pleasant one and quite worthwhile from the scientific point of view.

Thanking you again,

Sincerely yours,  
 Thomas L. Hanlon

GORDON RESEARCH CONFERENCE ON ELASTOMERS

Colby Junior College  
New London, New Hampshire

July 30 to  
August 3, 1956

B. S. Biggs, Chairman  
E. E. Gruber, Vice Chairman

- July 30 - "Adhesive Bonding of Metals", S. N. Muchnick  
"Fundamentals of Rubber Adhesion", D. M. Alstadt  
"Crystallinity and Orientation in Organosiloxane  
Polymers", a) X-ray Diffraction Studies - S. M.  
Ohlberg and L. E. Alexander. b) Physical  
Measurements - E. L. Warrick
- July 31 - "Synthesis by Anionic Polymerization of New  
Elastomers and Unsaturated Crystalline Polymers",  
G. Natta  
General Discussion of Synthesis and Properties of  
Cis Polyisoprene and Related Polymers  
"Biosynthesis of Rubber", W. S. McNatt
- August 1 - "Formation and Properties of Networks Involving  
Addition Polymers Having Reactive End Groups",  
R. M. Pierson  
"Interaction Between Rubbers and Fillers",  
H. Westlinning  
"The Significance of Swelling Equilibria in Carbon  
Black Reinforced Elastomers", G. Kraus
- August 2 - "Reinforcement by Fine Particle Silica", J. W.  
Sellers, D. Inman and M. P. Wagner  
"A Diffusivity Approach for Studying the Molecular  
Structure of Elastomers", I. Auerbach, W. C.  
Kuryla and S. D. Gehman  
"Recent Developments in Theories of Elastic Behavior  
and Mechanical Failure of Rubber", L. Mullins
- August 3 - "Dynamic Properties of Strained Elastomers",  
K. W. Scott  
"Stress Relaxation of Natural Rubber Vulcanizates",  
J. P. Berry

GOOD YEAR

**The Goodyear Tire & Rubber Company**

AKRON 16, OHIO

January 18, 1956

Dr Giulio Natta  
Istituto di Chimica Industriale del Politecnico  
Piazza Leonardo da Vinci, 32  
Milano, ITALY

Dear Professor Natta:

It was indeed a pleasure and privilege to meet you last month on my trip to Europe. After leaving Milan, I flew directly home and was able to get back in time to spend the holidays with my family.

I enjoyed our discussions of your work very much and cannot help but feel that there will be great interest in commercializing some of the polymers you have developed. We are most anxious to keep in close touch with you and Montecatini in the hope that some mutually satisfactory and beneficial arrangement can be made.

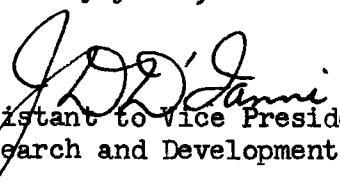
I would greatly appreciate it if you can keep us informed as to when will be a proper time for future discussions.

You were most generous with your time and I appreciate deeply the courtesies and the hospitality extended to me by you and Mrs Natta.

As soon as your schedule is more definite, please let me know about your plans to visit our Country with Mrs Natta, and in particular if it will be possible for you to come to Akron. I am sure that you would find a trip here most interesting, since this is the center of the rubber industry in this Country.

My kindest regards to you and Mrs Natta.

Sincerely yours,

  
Assistant to Vice President  
Research and Development

J D D'Ianni  
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26 11  
January 27, 1956

*Am*

Dr. J. D. D'Ianni, Assistant to  
Vice President - Research & Developm.  
The Goodyear Tire & Rubber Company  
A K R O N 1 6 = OHIO = U. S. A.

Dear Dr. D'Ianni,

I was very pleased to have made your acquaintance in Milan and to have discussed with you on several problems of mutual interest.

I think that Montecatini Co. will be ready shortly to negotiate abroad licensees on polypropylene, and on some co-polymers. On the contrary, in regard to the field of diolefins polymers, it is probable that Montecatini prefers to wait that the patents situation is clarify better and that the study of the uses of different new products is more developed.

I foresee to come to the U.S.A. during the first days of June and to stay there till the first week of August. If it is possible, I shall be very pleased to come for a day to Akron.

With my best personal regards, I am,

Very sincerely yours,

G. Natta



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Sunday Dec. 9

Dear Prof. Natta,

Thank you very much for your letter of Nov. 27

I shall be in Milano from Sunday noon Dec. 16  
to Tues. afternoon Dec. 18, staying at the  
Palace Hotel.

If it is convenient, I should like to see you  
on the morning of Dec. 18, and hope you can be  
my guest at lunch.

Sincerely yours,

J. D. Janni

P.S. Can Mrs. Natta join us?

13th December 1956

Mr. J. D. D'Ianni  
c/o Palace Hotel  
Piazza Repubblica 20

M I L A N O

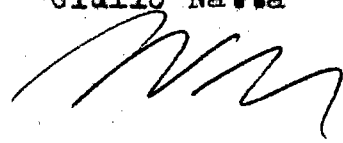
Dear Mr. D'Ianni,

I received your kind letter of December 9 and I wish to inform you that I shall be in Rome from December 14 till 16. In the evening of December 16, Sunday, I shall return to Milan to continue to Basel. I hope I may be back on December 17 in the evening and so I shall be glad to see you Tuesday in the morning. As soon I shall arrive to Milan I telephone to you at the Palace Hotel to confirm the appointment.

With best regards.

Sincerely yours,

Giulio Natta



GOOD YEAR

**The Goodyear Tire & Rubber Company, Inc.**

AKRON 16, OHIO

November 19, 1956

AIR MAIL

Professor Giulio Natta  
Istituto di Chimica Industriale del Politecnico  
Piazza Leonardo da Vinci, 32  
Milano, ITALY

Dear Professor Natta:

I am indeed sorry that you and Mrs Natta were unable to come to Akron on your visit to the States last Summer. However, I understand that you visited our synthetic rubber plant at Houston and had an excellent opportunity to see how synthetic rubber is manufactured in this Country.

In a few days I am planning to leave again for another trip to England and the Continent. I hope to visit Milano again about the middle of December.

It will be a pleasure to see you again and I am hoping that you will have a little time available to spend with me then.

Best personal regards.

Sincerely yours,

  
Assistant to Vice President  
Research and Development

J D D'Ianni  
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November 27, 1956

Mr. J. D. D'Ianni, Assistant to Vice  
President - Research and Development  
The Goodyear Tire & Rubber Company Inc  
A K R O N 1 6 = OHIO = U. S. A.  
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Dear Mr. D'Ianni,

I received your kind letter of November 19, 1956  
and I shall be pleased to see you during your visit to Europe.  
I wish to inform you, however, that I shall be in Milan probably  
only from December 3 to 12 and from December 18 to 22, 1956.

Hoping these dates will be convenient for you, I  
send you my best regards.

Sincerely yours,

G. Natta



GOOD YEAR

**The Goodyear Tire & Rubber Company**

AKRON 16, OHIO

RESEARCH DIVISION

November 2, 1956

Dr G Natta  
Istituto di Chimica Industriale  
Politecnico di Milano  
Milan, Italy

Dear Dr Natta:

I would like to obtain a copy of your paper entitled, "Synthetic Rubbers", which appeared in "Aspects Generaux de la Science des Macromolecules", 1955, pg. 69-86. This reference was taken from the September, 1956, issue of Rubber Abstracts, No. 3806.

If copies of this paper are available, will you please forward one to me.

Sincerely,

*Lora C. Straka*

Research Librarian

LES/ma

8587  
July 27, 1956

*the* Mr. J. D. D'Ianni  
Assistant to Vice President  
Research and Development  
Goodyear Tyre and Rubber Co.  
AKRON 16 - OHIO

Dear Mr. D'Ianni,

I regret very much that I had to renounce to my visit to your laboratory in Akron, because of some unforeseen developments I had to shorten my stay in your country and to modify the program that Prof. Mark kindly planned for me.

In the week before my departure, I had to go in Houston and I took this opportunity for visiting also the Plant of your Company.

I hope to have soon an other opportunity to meet you in Italy or in the States.

Thanking you again for your kind invitation, I send you my best wishes.

Very sincerely yours,

Giulio Natta

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**GOOD YEAR**

# The Goodyear Tire & Rubber Company

AKRON 16, OHIO

April 30, 1956

*Am*

*Dr. Natta  
11/11/56*

Dr Giulio Natta  
Istituto di Chemica Industriale del Politecnico  
Piazza Leonardo da Vinci, 32  
Milano, ITALY

Dear Professor Natta:

It is with a great deal of pleasure that I anticipate your visit to our Country this Summer. I can see that you will be a very busy man, since you are scheduled to appear on the programs of three of the Gordon Research Conferences in June and July.

I am still hoping that, on your forthcoming visit, you will be able to come to Akron and spend a day with us at Goodyear. It will be particularly pleasant if you are able to bring Mrs Natta with you as well.

You indicated in your previous letter that it might be possible for you to come to Akron for a day or so. If your plans are more definite now, I shall be pleased to hear from you so we can know when to expect you. If there are any arrangements, such as hotel reservations, that we can make for you, we shall be most happy to do so. Please give my regards to Mrs Natta and your associates at Montecatini.

I should also mention that I talked on the 'phone the other day with Dr DiNola. He and Dr Fornara are in this Country now and are planning to visit us at Goodyear in about ten days.

Sincerely yours,

*J. D. D'anni*  
Assistant to Vice President  
Research and Development

J D D'Ianni  
t

5637  
May 9, 1956

*Am*  
Mr. J. D. D'Ianni  
Assistant to Vice President  
Research and Development  
The Goodyear Tire & Rubber Co.  
A K R O N 1 6 = OHIO = USA

Dear Mr. D'Ianni,

I thank you very much for your kind letter of April 30. I am glad to inform you that I think I shall come to Akron on July 10 or 11, and I ~~hope to be able to~~ <sup>is my program</sup> visit your Company *on July 11 -*

I shall be more precise later, as soon as possible, but I wish to inform you that I leave Milan to the United States on June 4 and I foresee to stay in the U.S.A. till the first days of August.

With best regards, I am,

Very truly yours,

Giulio Natta

1° Marzo 1957

Egr. Sig. Ing. Piero GIUSTINIANI  
Amministratore Delegato

Soc. " Montecatini "

S e d e

Caro Ingegnere,

leggo un articolo di J.D. D'Ianni della  
"Goodyear Tire and Rubber Co.", intitolato "Look again at the  
Synthetic Rubber Industry" e pubblicato su "Petroleum Refiner"  
(dic.1956), dove sono citati, oltre ai lavori della Firestone,  
Goodrich e Goodyear sul poliisoprene, anche quelli della Phillips  
dell'aprile 1956 e di Aries del settembre 1956 sui polibutadieni.

Non vengono minimamente citati i nostri lavori sui polibuta-  
dieni, sebbene siano antecedenti. E' vero che noi non abbiamo pub-  
blicato nessun dato tecnologico, relativo all'impiego come gomma  
dei polibutadieni (al di fuori dei brevetti) e ciò forse può giusti-  
ficare in parte la dimenticanza di D'Ianni.

Il fatto però che tutti i gommisti si affrettino a pubblicare  
i loro risultati sulle nuove gomme mi fa temere che la nostra poli-  
tica del silenzio non sia quella giusta, almeno per la mentalità  
americana e per un campo in cui la situazione brevettuale appare  
assai complicata.

Cordiali saluti.

G.Natta

P.S. - Ho pensato che sarebbe bene far notare a D'Ianni la sua dimer-  
ticanza. Dato che avevo conosciuto D'Ianni due anni fa a cena  
di Di Nola, avrei preparato l'allegata lettera per Di Nola,  
affinchè sia lui ad informarlo. Prima di mandargliela, gradirei  
sentire se Lei non ha nulla in contrario.

All. bozza di lettera per Dr. Di Nola.

AIR MAIL  
GOODYEAR

# The Goodyear Tire & Rubber Company

AKRON 16, OHIO

Professor Giulio Natta  
Istituto di Chimica Industriale del Politecnico  
Piazza Leonardo da Vinci, 32  
Milano, Italy



Dear Professor Natta:

Thanks very much for your letter of May 3 enclosing a list of references of your work on stereospecific polymerization. I also appreciate very much your sending me reprints of a number of your articles, as well as a copy of the paper that you presented at the conference in London recently.

At the time that I prepared my short article on Synthetic "Natural" Rubber, not all of this information had been published and, therefore, was unavailable for my use. You will notice, of course, that I did refer to your work on the crystalline polymers of butadiene and gave some key references on your development of the isotactic and syndiotactic polymers.

I was not sure from your letter whether or not you thought it was desirable to make some changes in my article and give a more complete listing of the papers and patents. It is very doubtful that I can make any substantial change in this article at this date, but, if there are any specific references that you would like to have included in addition to the ones that I have already listed, I shall be glad to try to make such changes in the manuscript. However, it is evident to me that sufficient references to your work have been made in this short article so that the reader is well aware of the important part that you have played in the research work in this area.

Mr Pierson tells me that he enjoyed meeting you very much at the London Conference and had the opportunity of discussing these interesting polymers with you. I am hoping to make another trip to Europe later this year, and perhaps we shall have an opportunity again to discuss these very interesting developments in the synthetic rubber field.

Best personal regards.

Sincerely yours,

*J. D. Ianni*  
Assistant to Vice President  
Research and Development

J D D'Ianni  
t

*Letter from Mr Pierson*  
*[Signature]*

GOOD YEAR

**The Goodyear Tire & Rubber Company, Inc.**

AKRON 16, OHIO

*reynolds*

March 18, 1957

Dr Giulio Natta  
Istituto di Chimica Industriale del Politecnico  
Piazza Leonardo da Vinci, 32  
Milano, ITALY

ISTITUTO DI CHIMICA  
INDUSTRIALE DEL POLITECNICO  
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Dear Dr Natta:

Recently I prepared for the Encyclopedia of Chemical Technology an article summarizing the work that has been done on the synthesis of "natural" rubber. This volume of the Encyclopedia will probably be published later this year and I thought you might be interested in getting an advance copy of my article.

*reynolds*

Best personal regards.

Sincerely yours,

*J D D'Ianni*  
Assistant to Vice President  
Research and Development

J D D'Ianni  
t

Enclosure

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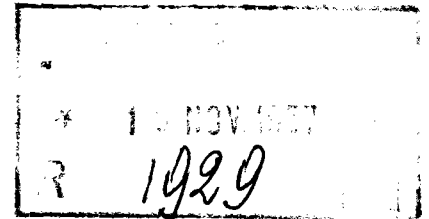
GOOD YEAR

# The Goodyear Tire & Rubber Company

AKRON 16, OHIO

*Am*  
November 13, 1957

Professor Giulio Natta  
Istituto di Chimica Industriale del Politecnico  
Piazza Leonardo da Vinci, 32  
Milan, ITALY



Dear Professor Natta:

I enjoyed my recent visit with you very much, since it gave me another opportunity to become acquainted with the recent work that you are doing, especially in the field of elastomeric copolymers. As you know, this is a field of great interest to us and I hope that something can be worked out so that this information can be commercialized in the United States by our Company.

While I was in Europe, I helped our Chemical Division with the presentation of information on synthetic rubber at seminars in Hannover and Paris. I am enclosing, for your information, a copy of some of the remarks I made concerning the advances in synthetic rubber research in the United States.

If you are planning to visit the States next year, please be sure to visit us in Akron, as you shall be very welcome here.

My kind regards to you and Mrs Natta for a most pleasant visit in Milan.

Sincerely yours,

*J D D'Ianni*  
Assistant to Vice President  
Research and Development

J D D'Ianni  
t

Enclosure

*response to inquiry and*  
*11*



G/AI

Milan, November 18, 1957

*Prof. Natta*  
*The Goodyear*

Dear Dir. D'Ianni,

Many thanks for your letter of November 13th.

Indeed it was a great pleasure for me too to meet you here on the occasion of your short stay in Italy.

With regard to polypropylene and prospective extensions of the same to the elastomers field, I am glad to hear you confirm the interest of your Group in this respect.

The technical experience and background of Goodyear have a great weight for me in connection with the appreciation expressed by you about our studies in this field.

I reserve to send you as soon as possible the draft mentioned during our talks. Such draft will envisage only conditions of general and particular nature, without any reference to figures which could, instead, be put forth within a certain time, should your Company be still interested in the matter and should our studies have reached then a more advanced stage, as we strongly wish.

I thank you once more for your kind invitation to visit you at Akron. While assuring you that if my program of visits to the States is maintained I will be very pleased to accept it, I take this opportunity for conveying to you my best personal regards.

Yours sincerely,

(Ing. Piero Giustiniani)

MR; J. D'IANNI  
The Goodyear Tire and  
Rubber Company  
AKRON 16, Ohio.

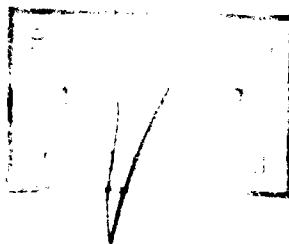
**GOOD YEAR**

# **The Goodyear Tire & Rubber Company**

AKRON 16, OHIO

November 13, 1957

Dr Ing Piero Giustiniani  
MONTECATINI  
via F Turati, 18  
Milan, ITALY



Dear Dr Giustiniani:

It was a great pleasure for me to meet you on my recent trip to Milan.

Your development of the polypropylene project is certainly a very impressive one, and I was glad to be brought up to date on your progress in this field.

We are very much interested in continuing our discussions with respect to Professor Natta's work in the field of elastomeric polyolefines, and will be looking forward to receiving from you a tentative proposal with respect to the licensing of the information in this field.

I was also glad to hear that you and possibly Professor Natta are planning to visit the United States again next year. If this visit should materialize, I should like to extend an invitation to both of you to visit us here in Akron, as you will be most welcome.

Sincerely yours,

Assistant to Vice President  
Research and Development

J D D'Ianni  
t

*Goodyear  
USA*

copia p. c. PROF. NATTA

1957  
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Milan, October 25, 1957

Dear Mr. D'JANNI,

I received your letter of October 22nd  
addressed to me from Paris, and agree to see you at my office  
on Wednesday October 30th, at 10 hours a. m.

Looking forward to the pleasure of meeting  
you soon, I beg you to accept my best personal regards.

Yours sincerely,

(Ing. Piero Giustiniani)

Mr. J. D. D'JANNI  
c/o Palace Hotel  
Milan.

*America*

3 Ottobre 1957

N° 1607/

Mr. J. D. D'IANNI  
Assistant to Vice President  
Research and Development  
THE GOODYEAR TIRE & RUBBER Co.  
AKRON, 16 Ohio (USA)

Dear Mr. D'Ianni,

From your letter of 18th September, I learn with pleasure that in October you will come in Milan.

I am very pleased to meet you in Milan and I looking forward to seeing you.

Best personal regards

Sincerely yours,  
(Prof. G. Natta)

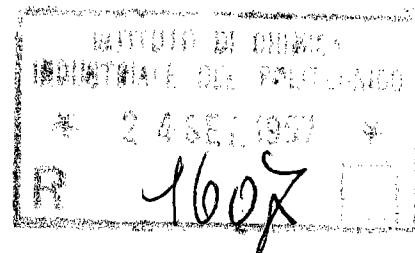
GOOD YEAR

**The Goodyear Tire & Rubber Company**

AKRON 16, OHIO

September 18, 1957

Professor Giulio Natta  
Istituto di Chimica Industriale del Politecnico  
Piazza Leonardo da Vinci, 32  
Milan, ITALY



Dear Professor Natta:

I am hoping to have the pleasure of visiting with you again next month when I shall be taking my annual trip to Europe. My plans are to be in Milan on Tuesday and Wednesday, October 29th and 30th, and I hope that you will be available for a brief visit sometime in that period.

I hope that there will be an opportunity to discuss some of your recent work in polymers, particularly for the preparation of rubber-like polymers from the olefins and diolefins. As you probably know, we are interested in discussing this further with the Montecatini people.

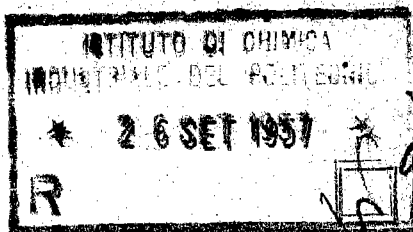
All of my previous visits with you have been most pleasant and enjoyable, and I am, therefore, looking forward to seeing you again.

Best personal regards.

Sincerely yours,

*J. D. D'Ianni*  
Assistant to Vice President  
Research and Development

J D D'Ianni  
t



copia p. c. PROF. NATTA

Milan, September 25, 1957

Dear Mr. D'Ianni,

I received your letter of September 19th, 1957.

I perfectly recall the visit which Mr. Pierson paid to us and the talk I had with him with regard to the possibility of an understanding between us for the manufacturing of elastomeric polymers of alpha-olefins and dienes.

I will be very glad indeed to have another exchange of views with you here in Milan on Tuesday October 29th at 4 hours p. m.


Since you are already on the continent, I believe that I am not imposing to you a sacrifice by asking you to make a flight to Milan even though our conversation may be just a preliminary contact in respect to the agreements which we will be glad to examine with your Company.

With my best personal regards,

Yours sincerely,

; (Ing. Piero Giustiniani)

Mr. J. D. D'Ianni  
The Goodyear Tire and Rubber Co.  
AKRON 14 Ohio.



May 3, 1957

Mr. J. D. D'IANNI  
Assistant to Vice President  
Research and Development  
The Goodyear Tire & Rubber Co., Inc.  
A K R O N 16 - Ohio - U. S. A.

N° 781/

Dear Mr. D'Ianni,

I thank you very much for sending me your paper for the Encyclopedia of Chemical Technology, which I read with great interest.

As I believe that you only know part of our papers, I am sending you, under separate cover, the reprints of some of my papers concerning stereospecific polymerizations. I send you also a copy of the lecture I held in London last March at the International Symposium on Synthetic Rubber, and a list of our patents already published.

I think that you might like to report also what has been done in Italy in the field of synthetic rubber, and, therefore, I wish to give you some information on the development of our research work in this field.

I believe that we were the first to polymerize diolefines to crystalline polymers, using Ziegler type catalysts.

We certainly were the first to prepare all the four different crystalline stereoisomers of diolefine polymers. Our scientific papers on the crystal structure of the pure stereoisomers of polybutadiene were published in the "Rendiconti dell'Accademia Nazionale dei Lincei" Rome, June 1956 on the structure of the 1,4-trans polymer, November 1955 on 1,2 syndiotactic polybutadiene, May 1956 on isotactic polybutadiene, and in the "Zeitschr. für Angew. Chemie", October 1956 on 1,4 cis polybutadiene.

We know of course of the Goodrich, Phillips, I. C. I., Du Pont, Aries, etc. patents on polymerization of diolefines to 1,4 polymers, most of which were filed after our first application in Italy on March 1955.

As for Aries, the structure that he attributes to 1,4 cis polybutadiene, does not seem to be correct; the structure he gives corresponds to the one that may be calculated theoretically, assuming the molecule to be planar; however the 1,4 cis polybutadiene molecule is not planar, and therefore the

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Maj 3, 1957

Mr. J. D. D'IANNI

The Goodyear Tire & Rubber Co., Inc.

Akron 16 Ohio

2°

data of Aries do not correspond to the real ones, found by us.

On ethylene-propylene copolymers and on elastomers obtained from them, we filed a series of patent applications from 1954 to 1956; I am enclosing a list of the patents issued so far.

I believe that we have been doing a pretty good job in the field of stereospecific polymerization, also as regards rubberlike products, and that our patent position is rather good. I think you should take this work under consideration in your publications on this subject.

I hope to see you in Italy soon. With best regards,  
I am,

Sincerely yours,

Giulio Natta

Encl.